

The Journal of

MEDICAL EDUCATION

PUBLISHED BY



VOL. 26

MARCH, 1951

No. 2

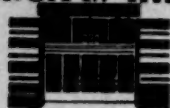
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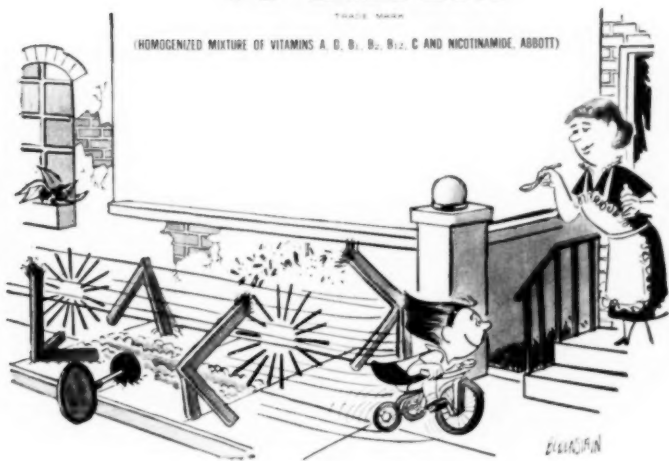
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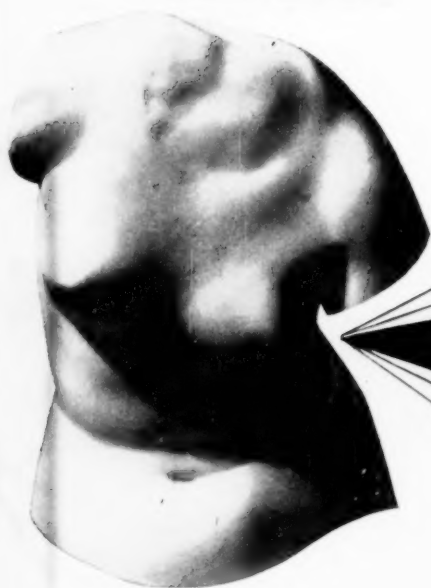
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2. Nesbit, H. T.: *Texas State J. M.* 38:551, 1943.
3. May, C. D. et al.: *Bull. Univ. Minnesota Hospitals* 21:208, 1950.
4. Block, R. J.: *J. Am. Dietetic Assn.* 25:937, 1949.

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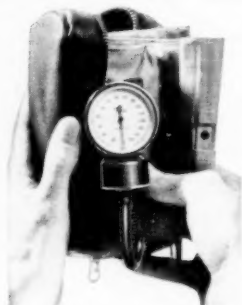
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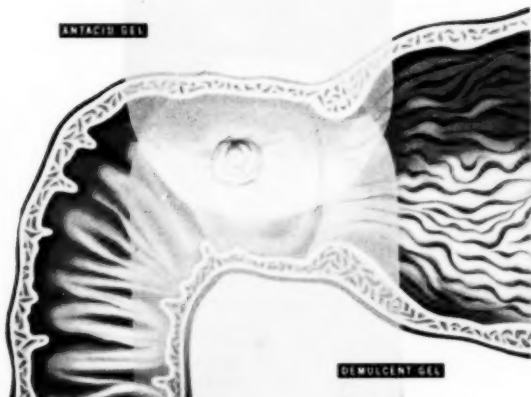
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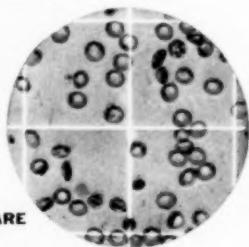
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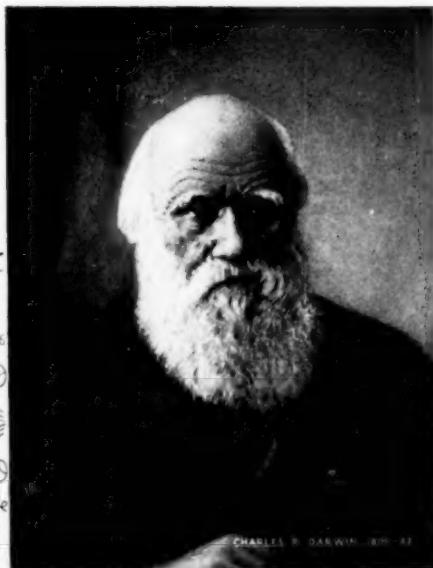
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MEDICAL EDUCATION

Volume 26 No. 2

March, 1951

Medical Education in this National Emergency*

JOSEPH C. HINSEY

Dean, Cornell University Medical College; Chairman, Executive Council,
Association of American Medical Colleges; Chairman, Section Nm
American Association for the Advancement of Science
New York, N. Y.

The continuance of a high standard of medical education throughout the national emergency is of vital interest to the members of this section. At the end of World War II, the Association of American Medical Colleges appointed a Committee on Preparedness for War whose function was to study the program of medical education and research during World War II to determine its strong points and to bring into focus the mistakes that had been made. After taking soundings of opinion from all our medical colleges by the questionnaire and other techniques, this Committee made its report to the Association of American Medical Colleges. It remains as a standing committee of that Association. In like manner, the American Medical Association appointed a Council on National Emergency Medical Service which has made a continuing study of utilization of medical manpower by military and civilian agencies in time of a national emergency, together with many other related problems.

For a number of years, there has been functioning a Liaison Committee made up of three members each from the Executive Council of the Association of American Medical Colleges and from the Council on Medical Education and Hospitals of the American Medical Association. This Committee has met three or four times a year and has discussed problems of mutual interest to the two organizations. At a meeting held in San Francisco on June 27, 1950, a few days after our entrance into the Korean conflict, it was decided to appoint the Joint Committee on Medical Education in Time of National Emergency to be made up of members of the Association of American Medical Colleges and the Council on Medical Education of the American Medical Association. In addition, liaison members were appointed from the Council on National Emergency Medical Service of the American Medical Association, from the Advisory Board for Medical Specialties and from the Medical Film Institute of the Association of American Medical Colleges. This Joint Committee was charged with the responsibility of studying the problems related to and making recommendations for medical education in time of a national

*Chairman's address delivered at the meeting of the American Association for the Advancement of Science, December 30, 1950.

emergency. Dean Stockton Kimball of the University of Buffalo served as Chairman and Dr. Donald G. Anderson, Secretary of the Council on Medical Education and Hospitals of the American Medical Association, as Secretary. Frequent meetings were held during the summer and fall and at all stages of the deliberations there was participation and cooperation with representatives of the Department of Defense, the National Security Resources Board, the medical departments of the Air Force, Army and Navy, the Public Health Service, the Veterans Administration and the National Selective Service System.

Two drafts of the preliminary statement were submitted at different times to the 79 medical schools in this country and various ones of the suggested changes were incorporated. It was discussed in the Executive Session of the annual meeting of the Association of American Medical Colleges at Lake Placid, New York, late in October. The final draft which was supported by the American Medical Association and the Association of American Medical Colleges was published as a supplement to the November 1, 1950, issue of the *JOURNAL OF THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES*¹ and in the *Journal of the American Medical Association* on November 25, 1950.² The proposals deal with the following topics; deferment of pre-professional college students, duration of college training, selection of medical students, obligation of medical students to serve their country following graduation, the medical school curriculum, number of students in medical school, faculty requirements, graduate students in the basic medical sciences, interns, residents, and medical education under universal military training in a national service act involving total mobilization. It will be impossible for me to discuss this statement in any detail, but it was summarized as follows:

"1. To insure the continued production of well-qualified medical graduates, provision must be made for an adequate supply of premedical students.

"2. The duration of premedical study should not be reduced below 90 semester hours, the equivalent of 3 academic years.

"3. All medical students should be selected by the medical schools.

"4. Subsequent to graduation and internship, deferred medical students should, if certified as available by such appropriate agencies as the National Advisory Committee on the Selection of Doctors, Dentists and Allied Specialists to the Selective Service System and the Health Resources Advisory Committee to the National Security Resources Board, be obligated to serve when needed in the Armed Forces or other specified government services.

"5. The curriculum of medical study should be reorganized to give proper emphasis to subjects of particular importance for the national health, security and welfare in time of national emergency.

"6. Medical schools should exert every effort to admit as many medical students as they can train without deterioration of the quality of medical training they can provide. Provision should be made for the increased financial support essential to the provision and maintenance of the increase in faculty, facilities and buildings required to accomplish the proposed increase in enrollments.

"7. The maintenance and replenishment of adequate faculties in the medical schools are absolutely essential to the continuing production of well-trained physicians to meet the needs of the civilian population and Armed Forces.

1. *J.A.M.Coll.* vol. 25, No. 6, Part II, November, 1950.

2. *J.A.M.A.* vol. 144, pp. 1111-1115, 1950.

"8. All medical school graduates should have an internship or graduate or postgraduate training of twelve or more months' duration.

"9. The continuation of an active residency training program is essential to adequate professional training, teaching and medical care, even in the gravest emergency.

"10. Provision for training of young men in the basic medical sciences, including graduate training, is also essential for the teaching and research functions of the medical schools and for the prosecution of research programs elsewhere. Properly qualified personnel, whether they do or do not hold a degree in medicine, should be deferred or assigned to these activities rather than to active military duty."

This summary represents the program that the medical educators and representatives of the medical profession believe is essential and a sound one for this national emergency. I should like to comment now specifically on a number of topics that involve manpower; i.e., the deferment of college students, the deferment of medical students, the maintenance of residency training programs, and the retaining of staff members for teaching and research.

Recently, President Conant of Harvard has set forth his reasons for believing that every able bodied 18 and 19 year old man should be drafted for two years of military service.³ He states: "I say 'every young man' advisedly: the able bodied to serve in the armed forces; those physically unfit to serve in other capacities at the same pay, which should not be high." This suggested program for the physically unfit should be spelled out in detail. The Conant point of view has been strongly urged by a Committee representing the Association of American Universities with a membership of 40 or more of the better financed institutions and by a Committee on the Present Danger for which Dr. Conant has been one of the spokesmen.

President Cole of Amherst College replied to the Conant plan⁴ and critically analyzed the many short-comings of this plan. He has suggested the continuation of the present Selective Service System and the deferment of 60,000 to 80,000 young men a year who "show by tests, like the Army aptitude test, that they can profit from further training." Such deferment would be continued only so long as their performance in college or graduate school indicated a performance that would make them useful to the nation. He would place emphasis on "their obligation to serve at the completion of their training by extending their liability to the draft for one month for each month they have been deferred."

The public report by the six scientific advisory committees to the Director of the Selective Service System made in Washington, D.C., on December 18, 1950, greatly amplifies President Cole's point of view. He served as Chairman of the Committee on Social Sciences. This report was unanimously supported by the six committees of recognized and experienced representatives of the following fields: agricultural and biological sciences; engineering sciences; humanities; physical sciences; social sciences and the healing arts. It was made after two years study on the general theses that he serves best who serves

3. Look Magazine, December 15, 1950, pp. 34-35.

4. Look Magazine, January 2, 1951, pp. 54-55.

most effectively and efficiently; that selection is required to reach this goal; that "if we are to maintain our civilization, we cannot permit any one of these areas of knowledge to be seriously crippled;" that "if we are to maintain our nation's security and to defend it in extreme emergency, we must not allow any of them to become undermanned," and that political considerations should be subjugated to what is best for our country.

This plan has been enthusiastically endorsed by the Joint Committee on Medical Education in Time of National Emergency. In so doing, we are in agreement with the Engineering Manpower Commission, the National Education Association, the Association of American College Governing Boards and other educational associations. The Department of Higher Education of the National Education Association conducted a recent survey among both faculty and administrative personnel in higher education. This showed that 86 per cent opposed a plan of military service that permits no deferment of college students, such as the Conant plan. Seventy-eight per cent favored a student deferment plan whereby qualifications to enter college would be determined by national tests and continuance in college would be based on satisfactory work as certified by the institution in which the student is enrolled.

The Reverend John J. Cavanaugh, President of Notre Dame University, has taken issue with President Conant's plan for universal military service for 18 and 19 year old men. He stated: "The experience of World War II have proved the need, not only in time of war, but in the vital postwar period, of men trained in colleges and universities." He has urged some plan, such as the one set forth by the six advisory committees to General Hershey "to provide the opportunity for training on the undergraduate and graduate level." Medical educators endorse such a plan because we believe that it is essential for the continued training of physicians, that qualified medical graduates should be trained at as early a date as possible so that they can serve where they can serve most effectively, and that it would be unfair to make the members of any profession or group of officers serve twice, two years before and then again after their educational experience. One can fairly ask where civilian and military medicine would be today if medical education had not been continued uninterrupted in World War II when we think that General Hershey and Colonel Richard Eanes did an outstanding national service for medical education and for society. Dr. Malcom M. Willey, Vice President, Academic Administration, at the University of Minnesota stated.⁵ "The information that sifts from behind the Iron Curtain indicates that the Russians are training men in scientific fields in vast numbers. More than that, they have been multiplying the institutions at which fundamental scientific training is given. There is reason for believing that today Russia is producing trained engineers and other scientists in greater volume than the United States. Surely, we, in this country, cannot be so shortsighted in our preparation for untoward eventualities with Russia as to diminish, even stop, the training of

5. *New York Times*, December 28, 1950.

the scientists upon whose abilities our superiority and strength must rest now and for years to come."

At the present time, we have a satisfactory system for the deferment of medical students who are registered with the Selective Service System. This is contained in Local Board Memorandum No. 7. There are pressures such as reflected in the recent article by Mr. Albert Q. Maisel entitled: "Our Alarming Doctor Shortage" for increasing the number of students enrolled in our medical colleges. This has great potential danger if enrollments are to be increased beyond the abilities of the schools to offer a high standard of medical education. Medical colleges have received little recognition for the increase from 5,794 entering first year students in 1939 to 7,042 in 1949. There are about 7,187 in this present first year class and with new schools to be put in operation and other planned increases, one may anticipate that this number will be 7,500 in the near future. An increase of about 24 per cent over those entering in 1939 is a significant increase.

Each of our medical schools has recently reviewed its own facilities to see what can be done about increasing enrollments. However, the real problem is the great financial need to finance the present level of operation. This need has sometimes been used as the driving wedge for increased enrollments. Unless it is met, it will become necessary either to decrease numbers of students or to offer a substandard medical education. The Joint Committee has stated: "On the basis of experience with ASTP and V-12 programs in World War II, we believe very strongly that it is neither desirable to place medical students in uniform nor to have them subsidized as a group by the government. It might be wise to have a special insignia to indicate that they have been deferred, or, if commissioned, placed on an inactive duty status for study considered essential to the health and welfare of the nation." It was recommended that consideration be given to governmental scholarships and loans to be made available to students on the basis of economic need or as a reward for academic superiority.

At the start of this present emergency, there was a surprising lack of appreciation of the importance of the residency training program not only for training specialists but for medical education. Some very undesirable policies were promulgated such as giving deferments to reserve medical officers only when they were interns and senior residents. Fortunately, many of these problems seem to be undergoing solution under the direction of the Health Resources Advisory Committee of the National Security Resources Board and the National Advisory Committee to Selective Service. These two committees have the same membership with Dr. Howard A. Rusk as Chairman. Local advisory boards have been set up under the direction of Dr. Rusk's committee to advise selective service and the military departments. In our part of the country, we have been pleased with the cooperation we have received. The problems will be accelerated as the demands for medical manpower are increased by necessity. Experiences of the military services during World

6. Collier's, December 16, 1950, pp. 18-19.

War II and with their resident training programs developed subsequently have sharpened their appreciation of the importance of maintaining effective graduate training programs. The medical colleges and teaching hospitals

FIG. 1—PROPORTION OF PROFESSORS OVER 60 YEARS OF AGE

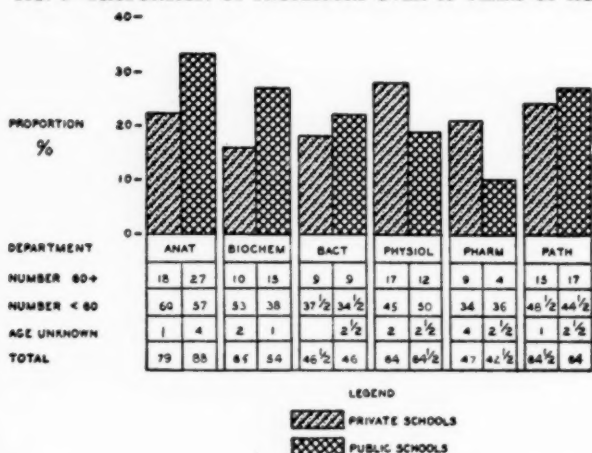
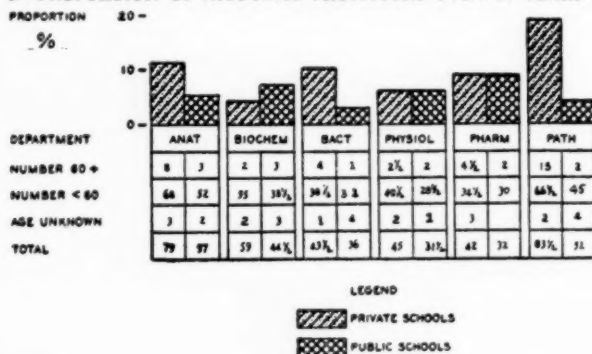


FIG. 2—PROPORTION OF ASSOCIATE PROFESSORS OVER 60 YEARS OF AGE



have received cooperation from the military services and from Selective Service in this phase of their work.

Each of our medical institutions involved in medical education must see to it that its staff is so constituted so as to provide for both teaching and research in even greater amount. At the present time, our medical colleges are undermanned, particularly in the basic science departments, as I have recently demonstrated in an analysis of the basic science departments in our

medical colleges.⁷ The drain, at present, will be mainly on the younger men in our clinical departments.

FIG. 3
DISTRIBUTION OF STAFF MEMBERS BY RANKS IN VARIOUS DEPARTMENTS

Department	Private (41 schools)				Total
	Prof.	Assoc.	Assist.	Instr.	
Anatomy	79	79	80	91	329
Biochemistry	65	59	65	40	229
Bacteriology	46½	43½	46	42½	178½
Physiology	64	45	64½	54	227½
Pharmacology	47	42	43½	44	176½
Pathology	64½	83½	97	102½	347½
Total	366	352	396	374	1488

FIRST TWO YEARS

Private
Number of Students—7150
Ratio students to faculty
4.8 to 1

Private and Public
Total faculty: 2614
Total students: 13,326
Ratio students to faculty
5.1 to 1

FIG. 4
DISTRIBUTION OF STAFF MEMBERS BY RANKS IN VARIOUS DEPARTMENTS

Department	Public (37 schools)				Total
	Prof.	Assoc.	Assist.	Instr.	
Anatomy	88	57	56	63	264
Biochemistry	54	44½	44	28½	171
Bacteriology	46	36	38½	31½	152
Physiology	64½	31½	43	27	166
Pharmacology	42½	32	20	18½	113
Pathology	64	51	63½	81½	260
Total	359	252	265	250	1126

FIRST TWO YEARS

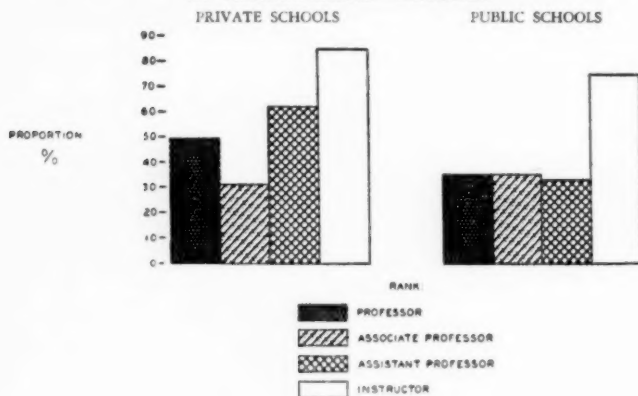
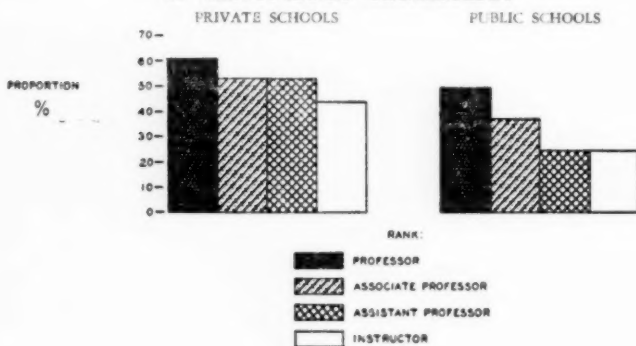
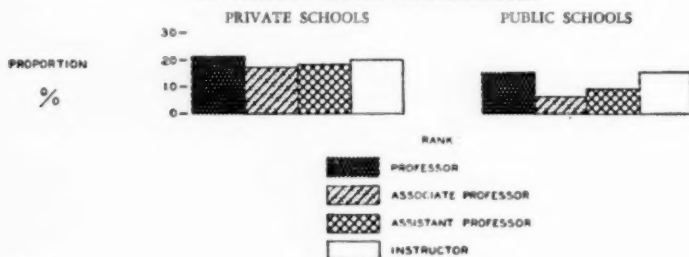
Public
Number of Students—6176
Ratio students to faculty
5.5 to 1

Private and Public
Total faculty: 2614
Total students: 13,326
Ratio students to faculty
5.1 to 1

Figure 1 shows the number of full professors in the various basic sciences who are over 60 years of age and figure 2 the number of associate professors in the same age group. In the next few years, we must appoint 45 professors of anatomy, 25 in biochemistry, 18 in bacteriology, 29 in physiology, 13 in pharmacology and 32 in pathology.

Figures 3 and 4 show the distribution of staff members by rank in various departments in 41 privately endowed and in 37 public schools. This analysis

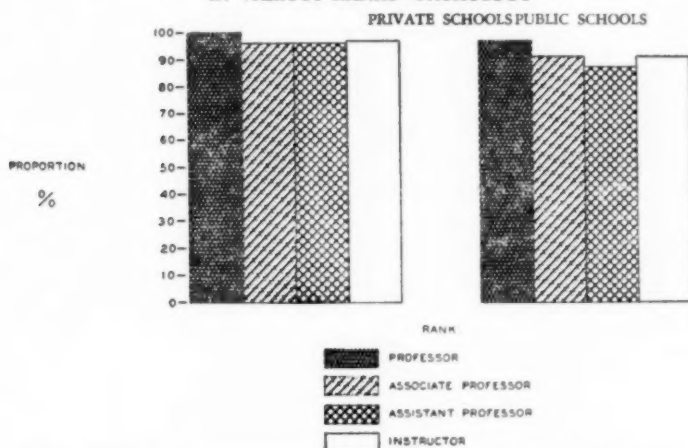
7. HINSEY, JOSEPH C., Maintenance of a Continuing Supply of New Faculty Members. J. A. Am. M. Colls., 25, 379-395, 1950.

FIG. 5—PROPORTION OF STAFF MEMBERS WITH M.D. DEGREE
IN VARIOUS RANKS—ANATOMYFIG. 6—PROPORTION OF STAFF MEMBERS WITH M.D. DEGREE
IN VARIOUS RANKS—BACTERIOLOGYFIG. 7—PROPORTION OF STAFF MEMBERS WITH M.D. DEGREE
IN VARIOUS RANKS—BIOCHEMISTRY

has made it very evident that we cannot afford to lose our present staffs and, what is more important, we must be permitted to train new members for replacements, not only in the basic science departments but also in the clinical ones.

The basic science departments have recruited many of their staff members from individuals coming from backgrounds of graduate training in the medical sciences or in the physical and biological sciences of our colleges and universities, leading to the doctor of philosophy or science degrees rather than the doctor of medicine degree. This is illustrated in figures 5-10. Biochemistry

FIG. 8—PROPORTION OF STAFF MEMBERS WITH M.D. DEGREE
IN VARIOUS RANKS—PATHOLOGY



has a relatively small proportion of its staffs who have the medical degree and pathology has the highest proportion. In anatomy, there appears to be some increase in the proportion of instructors with the medical degree, but this does not necessarily mean that they are all headed for academic careers in this field. There is indication of some reduced interest of those with a medical degree to enter bacteriology. This series of charts shows, without question, the importance of continued training of graduate students in the basic sciences in medical schools and in the physical and biological sciences in our universities. We must continue to depend on them for an important segment of our leadership and it would be a calamity to repeat the mistakes of World War II. The work done by our staff members of nonmedical backgrounds has contributed greatly to the vitality, progress and eminence of American medicine.

American medical education has been undergoing careful scrutiny and study by the Survey of Medical Education carried out under the joint auspices of the Association of American Medical Colleges and the Council on Medical Education and Hospitals of the American Medical Association. This is being

done under the direction of Dr. John E. Deitrick and his full time staff in an attempt to help chart the future course of our educational program. As a part of this Survey, there is a subcommittee under the full time direction of

FIG. 9—PROPORTION OF STAFF MEMBERS WITH M.D. DEGREE
IN VARIOUS RANKS—PHARMACOLOGY

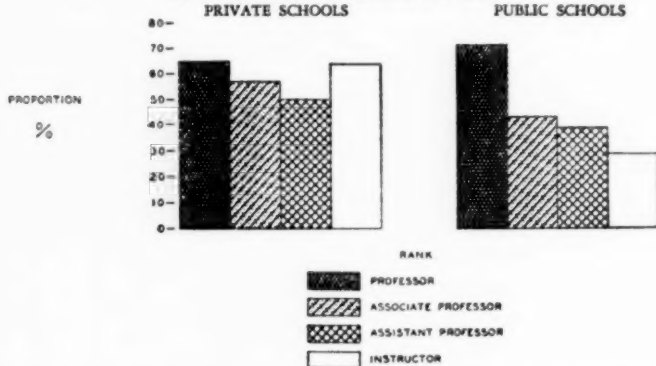
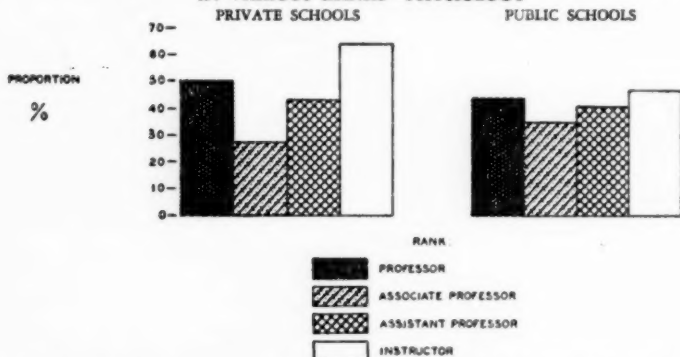


FIG. 10—PROPORTION OF STAFF MEMBERS WITH M.D. DEGREE
IN VARIOUS RANKS—PHYSIOLOGY



Dr. Harry Carman, formerly Dean of the College of Columbia University, which is studying the preparation for the study of medicine as it is conducted in our American colleges and universities. An attempt is being made in medicine to keep our house in order, to take an inventory and to look ahead as to what can be done to improve it. I have briefly described how medical education and the profession have outlined recommendations for this emergency, have potentiated some of them, and stand ready to put the remainder into operation. All of us should be proud of what has been done and what will be done. We must fulfill our obligations to society and maintain a high standard of performance in education, in research and in service.

Planned Graduate Training in Internal Medicine*

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INTRODUCTION

Having been charged with the responsibility of effecting a new teaching program for residents in internal medicine, our primary concern has been with the principles and details of its conception and execution. Only after a period of gratifying progress, based principally on intuition and experimentation, do we feel competent to examine the necessity for and feasibility of such a program and to present our solution of its mechanics.

That a formal plan is necessary for resident teaching seems, at the outset, somewhat questionable. Many of our colleagues cite the successful training of generations of specialists based on no more formal conditions than a somewhat fortuitous association of teacher, student and patient. For reasons which will become apparent, we must agree with Blankenhorn¹ and many others who do not consider that observation cogent in the present era. Others indicate that our current plethora of residents may be only temporary and due to the following factors: Shortened courses during the war years left graduates of that period with a need for further hospital experience; civilian doctors were often unable, because of the demand for their services, to take the training they desired for specialization or to keep abreast of medical progress; many medical officers spent years in non-professional capacities; preference in professional assignment, grade and pay in the military service was usually given to men with specialty qualifications and individuals suffering non-professional assignment were inculcated with the fear of repetition in the event of another national emergency; the possibility of socialized medicine potentiates a situation similar to that obtaining in the armed services. In spite of these arguments, or, perhaps, partially because of some of them, our experience indicates an ever increasing demand for medical specialty training even though the peak load directly attributable to the last war has been passed.

Graduate education is among the most emphasized phases of medicine today, yet one encounters few teachers or students who are critically satisfied with their particular program. That such education is best effected by medical school-hospital affiliates seems almost axiomatic. At the present time the medical school usually forms a nucleus with one or more teaching hospitals nearby. It is reasonable to suppose that medical schools may greatly expand their spheres of influence consonant with the following developments: there will probably be an ever increasing need for resident training

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facilities; modern communications, expedited by radio, television and air travel will in effect contract the scientific world; well trained specialists have dispersed and will probably continue to disperse from our present centers to all parts of the country. Because of these influences one can visualize a group of widely removed satellite hospitals attached to every medical school, each staffed by competent specialists who are faculty members and part time teachers. This possibility is emphasized by our own maintenance of a few orthopedic residences in hospitals physically removed several hundred miles from the medical school. It is a logical expansion of the visiting faculty suggestions of Evans², Mengert³, and Meyer⁴ and of the very advanced plan of McEwen⁵. Assuming that such systems evolve, it is our belief that the best assurance of good teaching at all levels, student, intern, resident and general or special practitioner, is a sound resident training program. McEwen has expressed a similar opinion. Such a program tends to pull the student and intern teaching along with it and to force the staff educational program ahead of it. It must, in most instances, be designed not for the full time medical school-hospital unit but for the more common arrangement in which much of the school and nearly all of the hospital teaching must be done by practicing doctors. This will probably continue to be true in spite of the popular trend toward retention of some full time clinicians by schools and hospitals.

Several plans for postgraduate instruction, notably that of Wells⁶, have been published and most educators are familiar with such graduate study systems as those of the University of Pennsylvania Graduate School, New York University-Bellevue Medical Center, the University of Minnesota Center for Continuation Study and the U.S. Army Research and Graduate School⁷. In spite of these and the many excellent treatises on the philosophy of graduate medical education, we find a dearth of published operational plans. It is our purpose to present a method of teaching which is applicable to the present medical school-hospital unit which also may, should the predictions of a preceding paragraph materialize, form a guide for the institutions involved.

PURPOSES OF RESIDENT TRAINING

Contrary to the opinion of some, our purpose is not to train individuals to pass the examinations of the American Board of Internal Medicine. While we are in entire sympathy with the aims and procedures of that body, it is our belief that the program should be on a mature academic level, and that for properly selected and properly trained individuals, the Board examinations are a screening process. In essence, our mission is to produce, in three years, a physician competent to practice all of the aspects of internal medicine, as managing doctor or consultant, in the hospital, office or home. To this definition might be added Balfour's⁸ qualification "without supervision."

METHODS

For didactic purposes, we can subdivide our curriculum into the following seven training phases: (1). Basic Science; (2). Clinical Science and Art; (3).

Ancillary Science and Art; (4). Medical Literature; (5). Research; (6). Teaching; (7). Organizational Activity. These, obviously, overlap in complex fashion, yet each represents an area that must be systematically approached and covered.

Before launching a description of our method of implementing the approach to the above listed training objectives, we should like to examine briefly the rationale of such medical teaching. For reasons previously discussed and because no individual can acquire knowledge of subjects to which he is not exposed, we feel that a policy of *laissez faire* is to be avoided. On the other hand, we are impressed by an essential difference between men and feel that it should be exploited. This concept is at variance with that of a supposed essential sameness of men which underlies most regimented curricula. Regarding graduate training, Irons⁹ has wisely counseled that here compulsion, regimentation and paternalism have no place. Therefore, our efforts are to present organized coverage of all the phases of internal medicine and yet offer time, facilities and encouragement for individual development.

Another guiding concept is that clinical medicine is but the practice of applied basic science, made effective by the arts of gathering information and handling people, tempered by good judgment. While this concept is somewhat controversial, it is supported by Tuohy¹⁰ and many others. Yet another principle, applied to the clinical employment of basic science, is that structure and function are, like mass and energy, inseparable in the ultimate analysis. Certainly at the molecular level this is true, and an increasing emphasis on the "biochemical lesion" indicates growing acceptance of the principle. Thus, a structure-function-clinical-application complex is conceived as an indivisible unit and clinical medicine becomes the application of knowledge of normal and abnormal structure and function. One cannot but feel that this is an advance over the dogmatic concepts and "parroting of syndromes" decried by Cullen¹¹. Mainly because of didactic precedent, this complex must be subdivided into the several established disciplines for effective teaching.

We feel that the field of internal medicine can best be divided into six subspecialty sections: (1). Infectious and Respiratory Medicine; (2). Gastro-Intestinal Medicine; (3). Metabolic and Endocrine Medicine; (4). Allergy; (5). Hematology; (6). Cardiovascular and Renal Medicine. This, obviously heterogeneous classification, based on etiologic, systematic, functional and statistical considerations, does not agree, to the best of our knowledge, with any published elsewhere. Although it does not allow for some rather narrow fields of subspecialization such as tuberculosis, hypertension or headache, it does appear to co-incide with the broader and generally practical subspecialties that are emerging from the field of internal medicine. All of the conditions properly cared for by the internist can be liberally classified in this way. It will be noted that the term "Medicine" rather than "Disease" is used in

designating the sections. This is in keeping with our concept that a knowledge of normal is basic to any understanding of the abnormal and that disease is usually a variation beyond frequently ill defined and often arbitrary limits of "normal variation."

Reference to Table 1 graphically clarifies many of these points and reveals our concept of the overall organization of knowledge in the field of internal medicine. It will be noted that column 1 depicts the structure-function-clinical-application complex, column 2 emphasizes our concept of normal and abnormal relationships and column 3 integrates these with the established disciplines. Each square denotes an area of organized knowledge which must be covered in the residents' education. Each incorporates the knowledge of the areas below and is integrated with those on its own level. In general one may say, again referring to Table 1, that the earlier tendency was toward vertical limitation of specialties, generally establishing anatomists, chemists, bacteriologists, pathologists, physiologists, pharmacologists and clinicians. A more recent trend is toward narrowing the horizontal and deepening the vertical concentration of the specialist. Thus a physician now, and, probably, this will be more noticeably true in the future, tends to be limited in the breadth of clinical application while better trained in the structure-function levels of his activity. This might be termed specialization in depth.

Proceeding from the general to the particular, the seven phases of medical resident training will be discussed in greater detail. With some additions, these combine in varying proportions most of the opportunities of the university fellowship, clinic fellowship, hospital residency, preceptorship and formal graduate training programs discussed by Musser¹².

PHASE 1. BASIC SCIENCE TRAINING

(a) *The Basic Year.*—In common with Mengert³, Welker¹³ and others, we feel that a minimum of one year should be spent in full time work in one of the basic disciplines, preferably physiology or pathology but allowably in biochemistry, pharmacology or bacteriology. The purposes of this period are to review, extend and bring up to date knowledge in all of the basic disciplines, learn the scientific research method, acquire the ability to evaluate the published results of others and to make a scientific contribution if possible. We agree with Welker¹³ that the individual should, if possible, receive an advanced academic degree. In order that the objectives be obtained, it is necessary that each student have expert counsel and guidance throughout the year. In this respect, our procedure has been to assign the individual to one of the basic science departments of the medical school or one of its affiliated hospitals. In each case, the department advisor and the Director of the Graduate Division act as co-counselors. Even with this care, the following undesirable features occur not infrequently: the resident takes his basic year between or even after his years on the hospital services, thereby disrupting the orderly continuity of his development; the student may become involved in a broad, but often very narrow, research problem and pursue it to the exclusion

of all other activity; he may attempt to maintain contact with patients, which is manifestly undesirable in this period; he may cover the field which he has chosen but neglect the other basic sciences; the student often fails to finish theses, research work and papers for publication by the end of the year, and, in attempting to complete them subsequently, interferes with the projected activities of his hospital years. Many of the fundamental scientists object to this year, maintaining that a minimum of three years is necessary for learning the scientific method and that a clinician has no need for this knowledge. Chesney¹⁴ shares their view and feels that if basic science training is to be given at all, clinicians should be the teachers. The former arguments are refuted by our common experience and the latter by the indisputable fact that, at the present, exceedingly few clinicians possess the grasp of basic science essential for its exposition. In passing, mention should be made of the men in whom real research ability is discovered, for whom this period serves as a determinant of their future life's work. Residents from all of the affiliated hospitals are assigned during this year to the Basic Science Survey Course, and those from the Evanston Hospital also attend the meetings of the Clinical Sections, to be subsequently described.

(b) *The Basic Science Survey Course.*—The purpose of this series of lecture-demonstrations is to present the individual with an organized outline of the field of internal medicine and to build up systematically the structure-function level of the student's knowledge in each of the subspecialties. Specifically, with regard to each discipline, the purpose is to renew information that has been forgotten since medical school, bring that up to date by presentation of subsequent advances, extend it within the scope of internal medicine and present material that does not appear in available publications. Such a program might be carried out in a few months of full-time work. However, as presented in Tables 2-8, which represent the solution finally worked out in our institution, the course is given in two-hour periods, once weekly, at night, extending over a period of three years. Time limitation demands that each student engage in rather extensive collateral reading. Since our residents change in three-year cycles but at odd times of the year, it is obvious that they cannot be kept in phase regarding this program. However, each will cover all areas because the course repeats in cycles of like duration. Time allocation of subjects has been carefully worked out on a statistical basis. For example, a small amount of time is devoted to Allergy because the extensive testing and desensitizing procedures are generally carried out by a subspecialist in Allergy and the practicing internist needs only knowledge of the broader aspects of the science revolving about the role of altered reaction in generalized conditions.

While Table 2 presents the master plan for the current course, Tables 3, 4, 5, 6, 7 and 8 are plans of section coverage. The ultimate detail of each series, of course, resides in lecture notes which are published for the permanent record of, and annotation by, the student.

It is beyond the scope of this or any other paper to present all the details

of organization of subject matter. Obviously this must be so arranged that the errors of repetition and omission, at least with regard to important subjects, are avoided. In our experience it has been most efficacious to conduct the meetings informally with a discussion period at the end of each hour. Despite the views of Chesney¹⁴ and McEwen⁵, speakers are drawn almost exclusively from the preclinical faculty. It is probable that successful prosecution of such a course on a wide geographic scale must await the day when more clinicians have adequate training in "basic" science.

PHASE 2. CLINICAL SCIENCE AND ART

The most important activity of the resident, and, therefore, the one to which the greatest part of his time should be devoted, revolves about the clinical study of patients. Here it is that the structure-function-clinical-application complex is integrated effectively and to this phase of training our student devotes the greater part of the latter two years of his graduate study. Even here we feel that his program must be organized so that he gains instruction and experience under the tutelage of many staff physicians, in all of the subspecialties of internal medicine, and in the care of both ambulatory and bed patients. Here, too, the role of the internist as the patient's managing doctor, as well as his consulting capacity, is stressed. These ends are served by the following organizational plan.

(a) *The Clinical Sections.*—The attending staff of the Department of Medicine of the Evanston Hospital is organized, in keeping with previously discussed principles, as follows:

Department of Medicine

- A. Division of Pediatrics
- B. Division of Neurology and Psychiatry
- C. Division of Dermatology
- D. Division of Internal Medicine
 - 1. Section on Infectious and Respiratory Medicine
 - 2. Section on Gastro-Intestinal Medicine
 - 3. Section on Metabolic and Endocrine Medicine
 - 4. Section on Allergy
 - 5. Section on Hematology
 - 6. Section on Cardiovascular and Renal Medicine

Attending physicians are assigned to sections in accordance with their major subspecialty training and interest. Few internists fail to have a particular subspecialty interest and these individuals are assigned arbitrarily. Junior staff physicians often benefit by rotating through several sections. Each section preserves its integrity by operation of one or more outpatient clinics, periodic section meetings and joint investigation projects. The operation of clinics will be discussed below. The Clinical Section corresponding to the subspecialty under consideration in the Basic Science Survey Course holds evening meetings of two to three hours duration twice monthly. Since

there is not time to cover exhaustively the subspecialty field, topics are selected. Here the emphasis is on the integrated structure-function-clinical application complex, which corresponds roughly to the theory of medicine. Table 9 presents a sample of such a correlated clinical program. Residents are assigned to the Clinical Sections in rotation so that during the two years of hospital service each rotates through each of six sections (Table 10). Attendance upon meetings of the Clinical Sections is obligatory for all medical residents of this hospital, whether on basic science assignment or floor service and regardless of section assignment. Sections other than the one correlated with the Basic Science Survey Course meet informally once every two months. Subject matter of the latter meetings generally follows the Cabot type of case presentation or journal club pattern and may include discussion of administrative or investigative work of the section.

Once monthly the entire department of medicine meets for a program of more general nature. Medical sections other than the one currently giving the major program, and other departments of the hospital, combine to present a topic of common interest.

After several years trial, departmental grand rounds have been abandoned. Instead, a highly successful conference on diagnostic and therapeutic problems is held each Saturday afternoon by the Chairman of the Department of Medicine and the present writer with only the medical residents. This meeting, which lasts from two to three hours, is of informal and intimate round table type, with or without patients. Each resident presents the difficult problem cases of the physicians on his floor service for general discussion. From these, unprepared dissertations on various subjects are developed.

(b) *Floor Services.*—The Department of Medicine of the Evanston Hospital comprises six floor services, each headed by the chief of one of the Clinical Sections. Although this is the same as the number of Clinical Sections, variable patient load and the fact that nearly every attending internist practices nearly all of the subspecialties of internal medicine make it impossible to superimpose the two. The apportionment that has been established can be found in Table 11. Rotation of each resident through all of the floor services insures experience under a large number of attending physicians. At the present time, this rotation is augmented by a four month service at the Chicago Municipal Tuberculosis Sanitarium. There, in addition to a concentrated experience in tuberculous and non-tuberculous chest disorders, the resident gains experience under consultants from our faculty in the fields of diabetes and cardiovascular-renal disorders. While staff members of each section are grouped on the floor services insofar as such grouping is feasible, free and semi-free patients are admitted strictly in accordance with proper section assignment. The latter procedure places each patient on the hospital service of the staff and house staff physicians who have been caring for him in the clinic. These relationships and methods of rotation are clarified by Tables 10 and 11. It is apparent that the scheme is flexible enough to accommodate a variable number of residents and floor services as long as reasonable atten-

tion is paid to statistical load of patients and the allocation of clerks and interns.

The mechanics of resident floor services are too well known to require any description. However, a few points are worthy of reiteration. Some attending physicians must periodically be reminded that excellent house staff service is something to be earned by extra time and effort spent in daily hospital teaching rounds. A resident should occasionally be held responsible for "working up" a new patient but this should not be a routine assignment. He is the intern's immediate superior and responsible for additional bedside teaching of his intern and clerk in the theory and practice of medicine and the technique of special procedures. He is the intermediary who investigates the didactically important cases, bringing all the facilities of special procedures and the library to focus on the case for his own benefit and for the edification of the intern, clerk and attending physician. In order that he may have time available for this, he must be freed of routine and administrative duties as far as possible. Finally, we feel that participation in one or more clinical investigative problems is an essential part of the resident's training but would caution against allowing the resident to become involved in too many of these procedures to the detriment of his clinical experience.

(c) *Clinic Service*.—A desirable source of ambulatory management experience resides in the clinic service. Evanston Hospital maintains a clinic devoted to the medical care of the community's indigent. Here, the Department of Medicine has the same organic composition as the Clinical Sections previously described. Each resident, together with his intern and clerk, serves in the clinics maintained by the Clinical Section to which he is assigned. Table 11 lists the clinics maintained by the various sections. It should be noted that, because of the small number of cases which defy classification, each subspecialty clinic is considered a general medical clinic for purposes of assigning these few patients. Staff physicians are assigned to the clinic or clinics of their section in rotation for periods of three to six months. The resident has complete charge of his clinic, using the staff physician present as consultant and employing the intern and clerk as aides. Each session is conducted in accordance with good teaching principles.

PHASE 3. ANCILLARY SCIENCE AND ART

This comprises the fields which are related to, but not an integral part of, internal medicine. The minor ancillary specialties are gynecology, urology, otolaryngology, ophthalmology and pediatrics, while all other fields of medicine and surgery are, in lesser degree, pertinent. No effort is made to teach these subjects except as a given case may demand. Four fields, closely related to internal medicine, are classified as major ancillary specialties requiring a definite plan for supplying experience and instruction: psychiatry, neurology, dermatology and radiology. In addition to the facilities provided by the usual floor services, each resident spends four months on the Ancillary Services. Here his time is largely devoted on assignment to the Department

of Radiology. In addition he serves in the neurology, psychiatry and dermatology clinics during this period. He is encouraged to confine his practical effort and literature review to these subjects during this phase. Table 10 illustrates the integration of this assignment.

PHASE 4. MEDICAL LITERATURE

Upon analysis, this seemingly self-explanatory phase becomes quite complex. Medical literature may be divided into two classes: standard (text, system, monograph), and current (journals). Our purpose is to foster familiarity with medical sources and develop a sound knowledge of the established principles of medicine and the best of current thought through these media and to inculcate habits of continued reading. It has, probably truly, been said that most of the material appearing in current medical periodicals is either already known or not true. Therefore, it behooves us to teach our men to read critically that they not drift into that large group of individuals who quote and act upon unproved recently published material as acceptable fact. To this end we believe two instruments are of value.

Experience in the scientific method gained during the initial year of our program provides the individual with a method for evaluating the published results of others and, in our hospital rounds and section meetings, the literature pertinent to each problem is carefully appraised. With these preliminary discretions in mind, we have recommended journals constituting a minimal routine monthly coverage of internal medicine. Subspecialty journals are recommended routine reading only while the resident is assigned to a particular subspecialty section. It is almost unnecessary to point out that an adequate library, open at all hours, is essential. Evaluation of standard literature, as defined above, has been an even more difficult task.

In 1948, I compiled an exhaustive list of medical books published in the English language. This list was submitted to various experts of our faculty and each work classified as essential, desirable, undesirable or "no comment" and catalogued under one of the six subspecialty sections. The list which was then posted for the aid of residents in building their personal libraries requires frequent revision.

Before leaving this subject we wish to emphasize again that the building of bibliographies by review of specific problems encountered from day to day is a very important part of resident activity and one for which time must be made available and for which the individual must be held accountable.

PHASE 5. RESEARCH

For descriptive purposes, this activity may be divided into two types, laboratory and clinical, with provisions for overlap. The purposes of, and provisions for, basic laboratory research have been previously discussed. We believe, with Balfour⁸, Blankenhorn¹ and others, that each resident should take an active part in a clinical research problem during his last two years. This, again, is for the purpose of developing experience to be used in evaluating the work of others, with emphasis on the particular difficulties encountered in

controlling clinical research. A sharp distinction is made between simple experience, which provokes opinion that may be valid or invalid, and experience under controlled circumstances which validate opinion. Secondly, the problem is designed to make a useful and unimpeachable contribution to medical literature. Finally, it is urged in order to discover and develop talent for such contributions after completion of the residency. As with basic laboratory research, this must be guided carefully by a staff collaborator and the Chairman of the Department of Medicine in order that the problem be worth while and the results valid. In general, our residents tend to essay too many problems, to the detriment of each and their other work. Therefore, our policy is now to limit them to one or, at the most, two well defined and supervised investigations.

PHASE 6. TEACHING

The residents of today must be the teachers of tomorrow. Additionally, they are in a particularly strategic position to enhance the teaching value of our internships and clerkships. For these reasons we again agree with Blankenhorn¹ that it is our obligation to guide them in technics of good teaching practice. Our policy is to charge each resident with extension of the bedside and clinic instruction of his intern and clerk. In addition, section meetings provide residents with the opportunity for presenting selected subjects. Time for preparation and facilities for teaching aids are provided. Each Chief of Section acts as preceptor in the teaching assignments of his resident.

PHASE 7. ORGANIZATIONAL ACTIVITY

Certain activities in this category prepare a resident for his place in the world of medical practice and broaden his professional horizons. These may be classified as meetings, attendance upon which Burwell¹⁵ considers a form of scholarship, and memberships. There are enough meetings in this area to occupy any individual's full time. The student's time must not be monopolized by meetings. As a matter of compromise, we require attendance at all meetings of the Basic Science Survey Course, all section meetings, the Saturday afternoon "problem conference," and at the weekly hospital clinicopathologic conference. Other departmental meetings of the Evanston Hospital are elective. We require attendance at any major organizational meeting, such as those of the American Medical Association and the American College of Physicians, held locally. Attendance at the meetings of the Chicago Medical Society, Illinois Medical Society, Chicago Society of Internal Medicine, Chicago Institute of Medicine, Central Society for Clinical Research, and other special societies are held optional. However, it has become customary for the attending physicians to take their assigned residents to most of these.

Memberships are handled somewhat similarly. Each resident is required to hold resident membership in the Chicago and Illinois Medical Societies and fellowship in the American Medical Association. Each is urged to retain membership in the American Association for the Advancement of Science.

Election to the Society of the Sigma Xi is obtained as soon as the individual is eligible, and application is initiated by the Chairman of the Department of Medicine. Most other societies have prerequisites beyond the resident level. In the last year of residency the individual is urged to become a member of the societies pertinent to his major subspecialty interest.

SUMMARY

This paper has reviewed the purposes of medical resident training and presented in some detail our method of implementing those purposes. It is obvious that many complex factors enter into each phase and that integration of the phases and their proper weighting requires the infinite in correlation. Too frequently the program represents compromise between things desirable and things practical. Despite the length of this paper, there has not been space enough for presentation of the ultimate details of organization and execution of the graduate program. Similarly, length precludes discussion of such important topics as the special problems of the veteran resident, exploitation of residents, overloading of overly-enthusiastic men, avoidance of imbalance in training, education of hospital administrators and trustees in the necessity for such programs, maintenance of teaching effort by the staff, recognition and development of unusual abilities, obligations of the residents to the hospital and staff, and provisions for advanced subspecialty training.

It is hoped that this discussion will serve as a useful and time saving guide for some. If current investigation establishes the feasibility of registering residents for graduate credit throughout their three year period of study, only minor alterations will be necessary in order to bring this program into harmony with the quarter system of the academic year. It is further hoped that it may stimulate the publication of more technical papers in this vital field and provoke criticism by expert educators of its many controversial points.

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TABLE 1. GENERAL ORGANIZATION

			SECTION OF INTERNAL MEDICINE					
1	2	3	Infectious and Respiratory	Gastro- Intes- tinal	Meta- bolic and Endo- crine	Allergy and Immunology	Hema- tology	Cardio- vascular and Renal
Clinical Science and Art of Internal Medicine	Abnormal and Normal							
Major Ancillary Science and Art	Abnormal and Normal	Neurology Psychiatry Dermatology Radiology						
Minor Ancillary Science and Art	Abnormal and Normal							
Functional Science	Abnormal and Normal	Physiology Biophysics Biochemistry						
Structural Science	Abnormal and Normal	Microscopic Gross Developmental Pathogenic biology						

TABLE 2. SURVEY OF BASIC SCIENCES FOR INTERNAL MEDICINE
Wednesdays, 7:00-9:00 P.M. (except August and September) 1948, 1949, 1950.
Numbers are clock hours.

	Anatomy Develop- mental Gross Micro- scopic	Chem- istry	Physi- ology	Bacteri- ology, Zoology, Mycology and Immu- nology	Path- ology	Pharma- cology	Total hours
1. Infectious & Respiratory Medicine	4	0	8	14	16	8	50
2. Gastro- intestinal Medicine ..	4	10	10	4	8	4	40
3. Metabolic & Endocrine Medicine	4	14	22	0	12	6	58
4. Allergy	0	4	0	2	2	2	10
5. Hematology	2	6	8	0	8	4	28
6. Cardio-vascular & Renal Medicine.....	4	0	22	2	12	6	46
TOTAL HOURS:	18	34	70	22	58	30	232

TABLE 3. SECTION I: INFECTIOUS AND RESPIRATORY MEDICINE

DATE	
2-11-18, 1948	Developmental, gross and microscopic anatomy of thorax, trachea, bronchi, lungs, mediastinum and diaphragm. Surface topography of the chest.
2-25-17, 1948	Normal and perturbed physiology of external respiration. Gas metabolism.
3-24-4-7, 1948	Virology. Rickettsiae. Principles of bacteriology.
4-14-5-5, 1948	Bacteriology. Protozoa and Metazoa. Mycology.
5-12-6-16, 1948	Pathologic anatomy of lungs, pleurae mediastinum and diaphragm.
6-23-30, 1948	Inflammation and repair. Modification by viral, rickettsial, bacterial, protozoan, metazoan and fungus agents.
7-7-28, 1948	Pharmacologic principles in infectious disease. Chemotherapeutic, antibiotic and other anti-infectious agents.

TABLE 4. SECTION II: GASTRO-INTESTINAL MEDICINE

DATE	
10-6-13, 1948	Developmental, gross and microscopic anatomy of the digestive tract, liver extra-hepatic biliary tract and pancreas. Relations and surface topography of the abdominal organs.
10-20-11-17, 1948	Chemistry of carbohydrates, proteins, lipids, lipoids and sterols. Chemistry of bile, pancreatic juice and other gastro-intestinal enzymes. Chemistry of gastro-intestinal digestion and absorption.
12-1-29, 1948	Physiology of the digestive tract, liver, extra-hepatic biliary tract and exocrine pancreas.
1-5-12, 1949	Enteric pathogens.
1-19-2-7, 1949	Pathology of gastro-intestinal tract, liver, extra-hepatic biliary tract, and exocrine pancreas.
2-16-23, 1949	Pharmacology of gastro-intestinal, hepatic, biliary tract and exocrine pancreatic drugs.

TABLE 5. SECTION III: METABOLIC AND ENDOCRINE MEDICINE

DATE	
3-2-9, 1949	Developmental, gross and microscopic anatomy of the endocrine glands.
3-16-4-20, 1949	Chemistry of intermediary metabolism of carbohydrates, proteins, fats and their derivatives. Chemistry and intermediary metabolism of vitamins, anti-vitamins and other accessory substances.
5-4-6-1, 1949	Normal and abnormal physiology of mineral metabolism. Abnormal physiology of other metabolic disorders.
6-8-7-13, 1949	Endocrine physiology.
7-20-10-26, 1949	Pathology of metabolic and endocrine disorders.
11-2-16, 1949	Pharmacology of hormones. Pharmacology of vitamins, anti-vitamins, thiourea derivatives and other "metabolic" preparations.

TABLE 6. SECTION IV: ALLERGY

DATE	
11-30, 1949	Antigens. Antibodies. Mechanism of the Antibody-Antigen Reaction.
12-7, 1949	Specificity of Serological Reactions.
12-14, 1949	Immunochemistry of Allergic Manifestations.
12-21, 1949	Role of Allergy in the Inflammatory Reaction.
12-28, 1949	Chemistry and Pharmacology of the Antihistaminics.

TABLE 7. SECTION V: HEMATOLOGY

DATE	
1-4, 1950	Developmental, gross and microscopic anatomy of hematopoietic and lymphoid tissues.
1-11-25, 1950	Chemistry of blood respiratory pigments and erythrocyte respiration. Chemistry of hematopoiesis (specific factor, B 12, folic acid, Co, Cu, Fe, thyroid hormone, cevitamic acid, etc.)
2-1-22, 1950	Physiology of the formed elements of the bone marrow and blood. Blood coagulation. Physiology of spleen and lymphoid tissues.
3-1-22, 1950	Pathology of the bone marrow and formed elements of the blood. Pathology of the spleen and lymphoid tissues.
3-29-4-5, 1950	Pharmacology of the hematopoietic drugs. Pharmacology of coagulant and anti-coagulant drugs.

TABLE 8. SECTION VI: CARDIOVASCULAR AND RENAL MEDICINE

DATE	
4-12-19, 1950	Developmental, gross and microscopic anatomy of the heart, blood vessels, lymphatics and the kidney.
4-26-5-31, 1950	Physiology of the heart, blood vessels and circulation.
6-7-7-5, 1950	Chemistry and physiology of the kidney. Acid base and water balance with particular reference to the cardiovascular system and kidney.
7-12, 1950	Cardiovascular-Renal bacteriology.
7-19-26, 1950	Pathology of the kidney.
10-4-25, 1950	Pathology of the heart and blood vessels.
11-1-15, 1950	Pharmacology of Cardiovascular-Renal drugs.

TABLE 9. DEPARTMENT OF MEDICINE, EVANSTON HOSPITAL:
CLINICAL SECTION ON METABOLIC AND ENDOCRINE MEDICINE

TUESDAY: 7:00 P.M.

3-15, 1949	Hyperthyroidism.	6-28, 1149	Diabetic Acidosis.
3-29, 1949	Thyroid Crises and treatment of Hyperthyroidism.	7-12, 1949	Unusual Diseases of Metabolism.
4-12, 1949	Hypothyroidism; Hypoglycemic states.	7-26, 1949	Rheumatoid Arthritis.
4-26, 1949	Macrocytic Anemias and Metabolic Disease.	10-11, 1949	Diseases of the Supra-renals.
5-10, 1949	Parathyroid Diseases.	10-25, 1949	Addison's Crises.
5-24, 1949	Gout.	11-8, 1949	Pituitary and Gonadal Diseases.
6-14, 1949	Diabetes Mellitus.	11-22, 1949	Myasthenia Gravis.

This program coincides with Section III, Metabolic and Endocrine Medicine (Table 5).

TABLE 10. GENERAL PLAN OF RESIDENT ROTATION, EVANSTON HOSPITAL
(Four month periods)

Resident	5-1-9-1 1948	9-1-1948 1-1-1949	1-1-5-1 1949	5-1-9-1 9-1-1949 1949	9-1-5-1 1-1-1950 1950	5-1-9-1 9-1-1950 1950	9-1-1950 1-1-1951 1951	1-1-5-1 5-1-1951 1951	5-1-9-1 9-1-1951 1951
1	B	B	B	V VI	A	III IV	II	MTS	I
2		B	B	B	V VI	A	III IV	II	MTS
3			B	B	B	V VI	A	III IV	II
4				B	B	B	V VI	A	III IV
5					B	B	B	V VI	A
6						B	B	B	V VI
7							B	B	B
8								B	B
9									B
10									B

Legend

- I. Medicine I Floor service, Section on Gastro-Intestinal Medicine
- II. Medicine II Floor service, Section on Metabolic-Endocrine Medicine
- III. Medicine III Floor service, Section on Cardiovascular-Renal Medicine
- IV. Medicine IV Floor service, Section on Allergy
- V. Medicine V Floor service, Section on Hematology
- VI. Medicine VI Floor service, Section on Infectious and Respiratory Medicine
- A. Ancillary services, principally Radiology
- B. Full time basic science work
- MTS. Municipal Tuberculosis Sanitarium, affiliated service

TABLE 11. ASSIGNMENT OF STAFF AND HOUSE STAFF

<i>Activity and Staff Partition</i>		<i>Clinic</i>	<i>Assigned House Staff</i>		
<i>Floor Service</i>	<i>Clinical Section</i>		<i>Resident</i>	<i>Intern</i>	<i>Clerk</i>
Medicine I	Gastro-Intestinal Medicine	Gastro-Intestinal Proctoscopy Gastroscopy	1	1	1
None (MTS)	None	None	2
Medicine II	Metabolic-Endocrine Medicine	Diabetes Other Metabolic- Endocrine Disorders	3	2	2
Medicine III	Cardiovascular- Renal Medicine	Cardiology Hypertension & Renal Peripheral vascular Cardio-radiology EKG	4	3	3
Medicine IV	Cardiovascular- Renal Medicine Allergy	As above Allergy	4 4 4
None (A)	None	Neurology Psychiatry Dermatology	3
Medicine V	Hematology	Hematology	6	3	3
Medicine VI (Contagious & Communicable floor)	Infectious- Respiratory Medicine	Infectious-Respiratory	6	6	6

Legend

A. Ancillary Services, principal assignment is Radiology

MTS. Municipal Tuberculosis Sanitarium, affiliated service

Psychiatric Teaching for Medical Students and Residents in a General Hospital*

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In any kind of psychiatric teaching, the primary barrier to effective learning by the student turns out to be emotionally determined, and to consist of attitudes of rejection of the material, skepticism and hostility toward the instructor, or intellectual acceptance based on impulses of conformity which conceal the underlying resistance. Intellectual acceptance may be facilitated by identification with the teacher for narcissistic goals, but is particularly unfortunate in this field because it deflects hostilities from their original object, i.e., the teacher, to the patient.

The resistance itself has many determinants. Most commonly it derives from the ordinary conventional defenses by which people try to ward off a knowledge of their own objectionable ideas and impulses. Such defenses are, of course, particularly well organized and entrenched in students with neurotic conflicts, and these represent a percentage which is by no means considerable.

An important source of resistance can often be found in the teaching methods used. The lecture without opportunities for discussion is the chief offender in this respect. However, I shall consider teaching principles in more detail later. It is especially important to recognize that teaching by a psychiatrist does not have to be the teaching of psychiatry. One has to assume that the objective is not to turn out psychiatrists but better doctors, who are responsive to their patients as human beings with all their all-too-human needs. An attitude of teaching which is specialistic, rather than based on the general goal of freeing the student from his inhibitions in responding to the emotional needs of his patients, tends to create additional resistances.

I.

I shall discuss briefly a number of principles we use in our teaching program for medical students and nonpsychiatric residents.

A teaching program should have a frame of reference, a structure, continuity, integration and definable goals. The frame of reference is the setting in which the student is working. There are very fundamental differences, for example, in the situation of the medical student who considers himself a student, and of the resident who considers that he is learning, but only in connection with a relatively independent and definitely responsible job experience. Medical students and residents should each have separate programs.

*Presented at the Annual Meeting of the American Orthopsychiatric Association held in Atlantic City, N. J., February, 1950.

Combining the two groups may be expedient as a time saver, but since there are different problems of resistance in each, it is actually wasteful of time in the long run,—and the resistances of both remain untouched.

In relation to setting, it is also important, in fact it is essential, to have the interested cooperation and participation of staff members in other departments, such as medicine and pediatrics, in the psychiatric teaching. When faculty members in other departments do not accept the reality of emotional forces as etiologic or contributory factors in illness, the learning situation for the student is affected adversely, since students tend to identify with the attitudes of the teachers they respect. The competent surgeon whose procedures make it possible to by-pass the emotional needs of his patients will, obviously, not be helpful in reducing a student's resistance to emotional material.

The structure of the program refers to the kind of material presented, i.e., the content, its organization and its timing. In medical school teaching, the subject matter covered should include personality development and adaptation, general and special psychopathology, emotional problems in illnesses, mental hygiene (or the fields of psychiatric practice) and social psychiatry (or the relations of psychiatry to social institutions and agencies). The curriculum should be so organized and timed as to best fit in with other material currently being presented to the student. For example, our freshman lectures in personality development are given as part of an interdepartmental course termed "Medicine as Human Biology," which stresses the concepts of growth and adaptation and attempts to stimulate in the student a creative intellectual approach to the whole content of his medical schooling. Again, as an example, in the fourth year, no lectures are delivered. Psychiatric teaching is integrated into the nonpsychiatric clerkships.

Continuity and integration are interrelated concepts. In order to be effective, the integrated teaching of psychiatry, i.e., its application to all patient problems, regardless of department, must be continuous. An interest in the emotional problems of patients is not something that can be turned on and off; it is either present and sustained, or it is rapidly dissipated in the dispassionate, logical, impersonal attitude toward patients which protects the anxious student from his own conflicts. By maintaining continuous pressure on the student to face the discomfort created by the stimulation through patients of his own problems, one provides an adequate, although obviously not always successful, opportunity for ego reorientation in the student, particularly the disciplining of irrelevant personal conflicts in the interests of the reality of the needs of his patients.

The development of this kind of professional discipline is the goal of psychiatric teaching in any setting to any group. It must be emphasized that it is a professional goal, since it is dependent on the mastery of a body of psychodynamic knowledge as well as on the development of skills in practice.

II.

Another educational principle which can be applied here is that of starting where the student is and making use of what he knows. The teaching of dynamic psychology differs from that of all other fields, and particularly the academic, in the very important respect that the student already knows what one sets out to teach, but does not have the knowledge available for use. It calls for a kind of teaching which is educational in a very literal sense, in that it consists of a "drawing out" of knowledge from within rather than its engrafting from without. To this purpose, the method of free group discussion is ideally adapted. The student is continuously provided the opportunity of reacting to the material presented with his own doubts, uncertainties, criticisms and anxieties. He reproduces his own conflicts in displaced form, and has an opportunity of working them through within the limits set by the educational experience.

At every point, it is made clear that the primary experience for the student is one of learning and not of therapy. The demands of the material, whether it be a dynamic concept or a fragment of the life history of a patient, are kept in the center of focus. The student is allowed to react freely to the material but any shift of focus to his own conflicts or personal problems is carefully avoided. It is possible to allow discussion to drift in the direction of therapy, but if so, it is at the expense of learning, and leaves the student with some relief of anxiety and with greater comfort and facility with his own problems, but without the capacity to deal with the reality demands of the material.

There is a fundamental fallacy involved in the substitution of therapy for learning. Although the freeing of inhibitions to learning through treatment will naturally be helpful, it will not, in itself, develop knowledge and skill. On the other hand, it is a criterion of good teaching that it remove the inhibitions which stand in the way of effective learning. It is a popular misconception that psychoanalytic treatment improves skill in other disciplines, such as social work, psychology, nursing, teaching, and so on. It may do so only in persons in whom neurotic conflicts interfere directly with the practice of the discipline. In most instances, after analysis, the technical resources of the person remain as they were, that is, the product of training and experience in his own profession plus original talent and aptitude.

Actually, the learning of a discipline which is concerned with the emotions may in itself indirectly offer the student certain limited psychotherapeutic benefits. Such a learning experience, after all, involves a process of emotional re-orientation, and is attended by a redistribution of repressions and sublimations, by a strengthening of the integrative capacity of the ego, and by greater adaptiveness to reality demands; in other words, it facilitates the maturing of the student.

It is also important, in presenting material to students, to proceed in graduated steps from the familiar to the new, a by no means original educational principle, but one which is frequently neglected in psychiatric teaching. As an

example, in a discussion of psychosexual development, our students will follow more readily if the concept of distribution of libidinal charges is subsumed under the ego concepts of problem solving and adaptive strivings as related to the phases of development. This does not in any way call for a watering down of the sexual concepts but their placement in perspective in relation to ego growth, differentiation, and integration. In general, ego psychology is clearly closer to the immediate experience of the student than are the id processes.

III.

A crucial, and in many ways the most difficult, aspect of planning a psychiatric teaching program for medical students and residents is the provision of opportunities for direct work with the emotional problems of patients. Although the medical student has a two weeks junior clerkship in the Psychopathic Hospital, we place more emphasis on the integration of psychiatric teaching in all of his other clerkship experiences. The reasoning here is self evident. All patients have emotional problems, by virtue of their being patients, and it should be the responsibility of every physician to recognize such problems, evaluate their severity, and offer such treatment measures as do not require the services of the specialist.

Since the emotional problems of patients are inseparable from their illnesses, whether these be organic or psychogenic in origin, it is advisable to restrict the practice of students and residents as much as possible to patients in the departments of medicine, pediatrics, obstetrics, gynecology, or surgery, rather than in the department of psychiatry. A two weeks clerkship in the Psychopathic Hospital provides ample opportunity for experience with psychotic patients, if considered from the point of view of practice in the nonpsychiatric branches of medicine. In this way, the teaching emphasis can be placed where it belongs, i.e., on the emotional problems of all patients who seek the care of physicians.

As an example of our procedure, I shall describe briefly a part of the psychiatric practice plan for medical students in the department of pediatrics. For one thing, we do not use the facilities of the child guidance clinic for this purpose, but do all of our teaching in the facilities of the pediatric department. A senior clerk in pediatrics, during his six weeks of outpatient clerkship, gets about ten hours a week of psychiatric consultative and teaching time. Patients in the pediatric outpatient clinics, who are found to present emotional problems, or patients in the special pediatric clinics in whom an obvious emotional component is complicating an organic illness, may be referred to the so-called Behavior Clinic in pediatrics. There two students work as a team, one interviewing the mother, the other the child; and they may continue to see mother and child in this way for six consecutive weeks. If, at the end of the clerkship period, the psychiatrist considers that further help is needed with the particular problem, the patient is referred to the child guidance clinic.

The student discusses each of his interviews in individual conference with the psychiatrist, and, in addition, two case seminars are scheduled for the clerkship group each week. In the discussion of case material, very little emphasis

is placed on techniques of interviewing. Most of our efforts are directed toward helping the students to an understanding of the practical dynamics of their cases, and to acquiring a method of dynamic evaluation on a practical level. It is important, for example, for the student to develop an appreciation of the reality limitations which are set by social and economic as well as by personality factors. It is also important for the student to have the opportunity of discovering for himself the therapeutic force of a friendly, noncritical, nonjudgmental attitude, supported by an intelligent and realistic expression of interest.

Through such an approach, we find that the student does not tend to resort to the use of technical therapeutic stereotypes but is helped to discover the most comfortable and effective use of his own potential personality resources. However, we do offer the student some orientation in interviewing, such as an understanding of the therapeutic attitude already referred to, the use of rational discussion in establishing the purpose of the interview and in clarifying what is expected of the patient, and the use of sympathetic and other emotionally supportive comments in the course of the interview. We do not place as much emphasis on the technique of "listening" as others seem to do, since we believe it requires the development of an active receptive role which belongs to special training in psychiatry.

IV.

I have said relatively little about our teaching program for nonpsychiatric residents, and I presume the reason is that it has been so much less successful, i.e., it has been far more difficult to establish teaching routines in the face of resistances of a much more formidable character. With limited teaching resources, we have preferred to give our major emphasis to the medical student program, inasmuch as there is little doubt that the chief explanation for the greater resistance of residents is the lack in their own undergraduate medical education of the kind of teaching I have described. The absence of such preparation tends to solidify defenses against the emotional reactions of patients, to create fears of personal involvement in the emotions of patients, and to bury any natural intellectual curiosity about the emotional life of the patient, apparently in all but a very small percentage of doctors.

In general, then, it would seem to me that more psychiatric time and effort should go into undergraduate rather than graduate medical education, at least for the time being. We present the psychiatrist to the medical student as a partner in his work with patients. I think it would be extremely valuable, as a contribution to comprehensive medicine, if such a partnership could be continued throughout the professional life of the physician, i.e., that he continue to think of the psychiatrist as a consultant who will stand ready to help him with the burden of his responsibility for the emotional problems of his patients. I believe that such a goal can be achieved only on the basis of a soundly conceived and consistently maintained program of psychiatric teaching integrated into the entire fabric of the learning experience of the medical student.

Let's Appoint a Committee

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Government by committee is prevalent in state and federal circles, country clubs and other social organizations, and, preeminently, on campuses. The system is unpopular in business, handicapped as it is by a necessity for operating with at least a modicum of efficiency. By and large, the committee system is growing. Many persons get a voice in matters by this system. Proponents of committees wave the banner of democracy, remark that everyone's business is everyone else's, and form another committee.

Campuses are good places to study the committee system. Campuses have more committees per square foot in their sprawling acres than they have classrooms. By a recent count, one school had one committee to every five or six students.

A committee is a group of persons, a subdivision of a larger group, occasionally elected but usually appointed, designated to perform some task. The task may be regular and recurrent, calling for a "standing" committee, or it may be special. The committee system should be best understood by presidents, deans, and a few persons who have been on so many committees with such conspicuous success in tact and tactics that they are sought the minute any problem arises. However, it is only the machinery of operation and manipulation that most of these persons understand. The committee system itself gets so little attention that it is not well understood at all. That is where this paper is pertinent.

Campuses are inhabited by students, who do not count at all, administrative groups, which perform the usual functions when they are permitted to do so, and faculties, which rather resent both students and administrators. Faculties are proud of what they call democracy, meaning that each must be consulted about everything. Everything is each man's business, by dictum.

Committees are most often appointed by administrators, faculties, or even committees. Committees may originate within faculties by processes similar to elections. Perhaps, the stellar committee in this respect was one university's Committee on the Election of the Committee on Committees, which had a number of sessions. They were deadly serious, for on their words depended academic democracy again. Stack the Committee on Committees, and what chance had anyone to get in on anything. This is our first inkling of one of the perils in the committee system,—distrust of the other fellow. Rather than stumble into these perils, let us examine the system and take a brief look at how it could be used,—still this side of Utopia.

On the campus, committees are used to solve, explode, or divert questions in academic administration. Most administrators could solve their problems without committees. They are hired to consult with others, to judge, and

then to make decisions, albeit with a human error now and then. When it comes to academic matters, and sometimes in purely administrative matters, this is not permitted. There must be a committee, or a dozen committees. Academicians like to feel that their atmosphere is so far above that of administrators that the administrators are only secretaries to their wishes. The last part is, in a degree, true, but not the first part. I have known many administrators and every one, I am sure, (1) would agree with the foregoing, (2) has qualified in academic life himself, (3) could find answers with as good a batting average as any committee, and (4) has learned by hard experience that professors of anthropology . . . zoology are wrong in their beliefs that they can or should render better verdicts on, for example, whether or not the School of Agriculture should reorganize than anyone else.

Administrators worth their salt could make their own decisions, still without foregoing democracy and without many basic errors, but they are not allowed to do so. No matter how careful the decision, there will be a distant rumble of trouble, stirred up in corners in which there are men who were not consulted. Let an administrator decide twice and the rumble is not so distant; a third time it becomes really perilous. An administrator on the campus soon learns that his academicians do not want administrative loads taken from their shoulders; they want a hand in every move. Some administrators, of course, are weak or politic. Weaklings refer all decisions to committees and then start each letter: "It was the recommendation of the committee. . . ." Committee machinery not only enables the politic to immunize themselves against all error, putting blame or credit as they choose, but they can see that the desired answers come from committees, by governing appointments and suggestions.

If the committee system is forced on good administrators and is used improperly by weak or politic administrators, it could be that there is something wrong in the system itself. Perhaps it is not the tool of democracy, a machinery that secures impartial and perfected decisions while it prevents the big bad wolves of the campus from running away with control. Possibly, the ideals of the committee system are seriously mixed with political chicanery, rationalization and incompetence. If we will take a brief look at the system itself, quite possibly the rules will not be found to be too complex; for instance:

RULE 1: THERE SHALL NEVER BE AN UNNECESSARY COMMITTEE.—
Scoring is like golf, not like baseball.

Colleges and universities are composed primarily of persons, students, faculties, and administrators. Students are not a major factor in committee matters,—perhaps, unfortunately. There is a plethora of administrators. A new college recently established a complete set of highly paid administrators before it had either faculty or students. Administrators sometimes appear on committees, but the committeemen usually come from the faculty. In committees they can expound their views on life and education, get into the political and administrative sides of the university, take a break from routine

labors, enjoy social pleasures, or simply inflate their egos. There are some, of course, who really dislike the endless hours spent in meetings of committees and who are not usually appointed to them.

Each administrative official has fairly well defined tasks and each academician has a share of responsibility. Scores of items now in the hands of thousands of committees might better have been put in the hands of men hired for the specific tasks.

Whenever there is a stalemate in discussion, whenever someone is unduly excited, whenever problems appear difficult, whenever feelings might be hurt, and on other occasions, there is a prompt answer, without thought: "Appoint a committee." Insistence on Rule 1, that there shall be no unnecessary committees, is plain common sense and efficiency. Members of the faculties spend thousands of man hours on trivia that can be predicted or could be decided in an hour by a proper, paid, authority, a waste that is not permissible. The fault is rather more the faculties' than the appointing officers', but both sides share the blame.

To assign tasks and authority to anyone brings a natural resentment from those who were not consulted or who think that they should share the glory. Let the penalty be paid by the man to whom the task is given, but let him have the authority and the job of deciding. Academicians constitute an undisciplined body of men. They require some discipline. Let it be understood that the decision of the man paid to decide stands; but likewise let him understand that a decision made without due consultation, consideration, tact and sense of justice is the first step in his downfall. The brusque decisions of genius sound better in novels than in life. Today, I was called and asked to express my opinion. The inquirer did not commit himself to follow my opinion. I have no right to feel hurt if he decides that the total argument goes against me. The time required was less than ten minutes, for each of two persons. The committee I now leave to attend will get nowhere in two or three hours, spent by five persons. We shall exchange views. It will not be unpleasant. The subject is official. With nothing else to do, it would be better than doing nothing, but we are supposed to have something to do.

Reduction of the number of committees to a tight minimum means more than mere efficiency. It means that those concerned still have a voice and a vote in decisions,—period. Those not concerned do not have to listen endlessly. They cannot issue slipshod judgments because they are not interested or because they are not informed outside their own spheres. There is no long harangue in which one side endeavors to win the other side over, putting victory ahead of right. We should be able to seek the opinions of proper persons in the best interests of education and the school, not on grounds of politics or importunity. We may impeach the autocrat who does not consult proper persons or fire the incompetent. Otherwise, we must accept the fact that certain persons, in effect all of us, are hired to add pros and cons in the best interests of schools and of education, and the fact that committees often

seek their own ways or adopt ineffective compromises not in the best interests of education.

RULE 2: THE DUTIES OF EVERY NECESSARY COMMITTEE SHALL BE EXACTLY PRESCRIBED AND LIMITED.—Sometimes this is done automatically, but often it is not. As often, the boundaries are not maintained by supervision.

A committee is appointed, for example, to see what might be done about raising the curriculum of a school from four to five years. This would be an improper decision for one person to make. A committee is in order. In fact, on this particular question parents, students, the profession concerned, and the supporters of the school are vitally concerned. It is not customary for schools to pay any attention to these persons but a committee could consider them, if it chose to do so. The assignment to the committee seems specific; yet it may do no more than give politic endorsement to the Dean's ideas or it may go so far as to make a flourishing recommendation on education in general.

Committees of academicians are given to expansion. Professors are fond of reducing specific problems to general problems. When a professor's wife wants to know whether or not the toast is done, he is likely to remark that a mere trace of warmth and color makes toast of a slice of bread and that it is not done until it is consumed or reduced completely to ashes. The committee, instead of answering a simple question, is likely to issue a report on philosophy and semantics. Many a committee, facing simple questions, has come up with answers that call for revision of education, if not of the world. In fact, I am trapped in this myself (see the paragraph next to the last).

To keep a committee in line, it must be given explicit instructions not only of what it must do but, even more important, what its limits are.

RULE 3: A COMMITTEE MUST BE TYPED AS ADVISORY, EXECUTIVE, OR JUDICIAL.—The committee which interrupted this writing in an earlier paragraph was to discuss a possible new degree. It might have been advisory, executive, or judicial. There was no good way to settle it. Were we to advise someone as to what degrees were possible and what we would suggest (advisory)? Were we to try to carry out the wishes of the Dean, to give these wishes added weight (executive)? Or were we to judge the evidence, estimating from our experiences what seemed to be in the interests of education (judicial)? Because this was not clear, we had a pleasant conversation for two hours and wound up floundering, with no answer.

Under Rules 1 and 2, the committee is necessary and is specifically instructed as to its duties. If it is advisory, it is mandatory that it be given to understand that its members are chosen to study its assignment with care and to present someone, perhaps a dean or perhaps a faculty, with advice on which it can act more intelligently than it could do otherwise, from its point of view. The viewpoint is quite different from that taken by a committee which itself endeavors to settle an issue. An investigative committee, for instance, is advisory in nature. Someone wants data. The committee's goal is

to find it, objectively. Committees advisory in type are often formed to enable administrators to get issues out of their hair. Even so, they have to sign the final orders; recommendations must be sound from the standpoint of their policies and committees are obligated to see their problems from the standpoints of those they advise. A good administrator will receive the report of the advisory type of committee as the views of others, new facts, and new opinions. He will say thank you and proceed to formulate his own opinion accordingly, neither differing to show his independence nor accepting blindly. In any event, the viewpoint in any advisory committee is that of the person(s) served, and of providing added evidence as a basis for decisions.

Any committee which is to advise, in the pure sense, should be warned of this function. Compare: (1) Joe Doakes is an earnest worker; (2) I recommend Joe Doakes. A good advisory type of committee will use the former approach. A good administrator will not be caught with the latter, from a committee typed as advisory; he has not been advised at all, but has only been told what his committee wants.

An executive committee, on the other hand, is a group entrusted with authority and told to use it. An "admissions" group, designating which applicants may be admitted to a school, is or should be an executive group. Suppose we have two such committees, one typed as advisory and the other as executive. An admissions committee designated as advisory in nature merely produces some evidence and turns it over to Authority, with a shrug of shoulders. Authority usually follows its outline but never feels that it must; it weighs the evidence of the committee along with whatever else it may know, in this case a dangerous procedure, considering the pressure put on deans and presidents and the high fallibility of single judgments. An executive type of admissions committee should have authority to act and a guarantee of support. Lack of authority or interference is disrupting.

Finally, there is the judicial committee, so typed. It waves a warning flag at its members. Many men are temperamentally unable to participate in judicial discussion. Purists will object that no one can attain a judicial viewpoint, yet in a realistic sense there is such a thing. It is not so much an attainable goal as one which can be approached practically.

Under the judicial viewpoint, each person on a committee is appointed, as a jury could be selected, to exercise the best possible impartial judgment on the problem presented. The antithesis of the judicial viewpoint is the representative viewpoint. To put personal prejudice and viewpoints aside in favor of a complete objectivity would be Utopian, yet it is possible to approach a problem with the thoughts, in order: (1) Is it educationally sound; (2) is it proper for the university; and (3) is it proper for the school? This is quite different from the questions of the representative: (1) How does it affect me; (2) what does it do to my department; and (3) how can I push this through my school?

A committee typed as judicial is, or should be, composed of persons cap-

able of considered judicial viewpoints and they should know that their function is to weigh and judge. For instance, one man of the judicial type may feel freedom of judgment when he is not affected by the problem, whatever the decision. The next appointee may well have an unselfish ideal and an unprejudiced interest in the realm of the subject under discussion. A third may have not only bias but a faith in his bias. There is nothing wrong with the representative viewpoint. It also has its place but the differentiation should be clear. In an advisory or executive committee, a member may be appointed deliberately to represent his department or school, but he should be so informed. The best interests of a school are not necessarily the best interests of the university, any more than the best interests of the university are the best interests of the community and education. Furthermore, representative viewpoints are permissible only when there is fair representation.

I have worked fifteen years on one committee on which a total of thirty different men have served. It is a committee of a school. At no time has every department been represented. It is a judicial committee. Most of the appointees have been judicial in outlook, either with intent or by nature, but there have been several who have carefully and conscientiously tried to weigh their personal and departmental opinions in relation to the whole story instead of deliberately sidestepping these in order to gain a judicial viewpoint. Instead of becoming umpires on the evidence, they are representatives by inherent philosophy. They have no wish to be unfair and they will not overstep what they call their spheres of authority. They often do not have any interest in matters in which they have nothing to represent. The viewpoint is perfectly proper but it is not judicial. In a group which is not completely representative and in which they act as representatives, they give undue weight to their departments.

The basic committees for next year are now published, mere lists of "standing" committees and lists of names. Many of these are necessary. They pass Rule 1. Many, together with some which will be formed during the year, could well be left out. Appointments to these committees are only partially based on abilities. Importunacy, "equitable" distribution, freedom from trouble, and power politics make themselves felt in appointments over and over again.

The duties of a committee are not defined. Most of them will be self-defined. Any attempt to define them would start a long chain reaction with much controversy. The end would be such broad compromise that there would not be any definition at all. Administratively considered, the committees are there when troublesome problems arise and they are relatively harmless ways of keeping academicians happy, or as happy as they know how to be. Occasionally, they are even useful as inadvertent seminars in education.

Those who appoint committeemen type the committees only when there arises a problem of discipline. The significant concept of a judicial committee is seldom mentioned. Advisory groups are commonly labeled, yet they are not

understood. To many committeemen the label only means that they are thwarted as to action; the positive meaning has no significance to them. Many an advisory group feels that its "advice" is tantamount to an order. Many administrators regard all committees as advisory to them; they do not recognize and support executive and judicial types.

It would not be too difficult to put the extensive, burdensome and inefficient committee system on a clearer basis, by never having a committee that is not necessary, by giving each its exact duties and limits, and by typing it as advisory, executive, or judicial, with a clear understanding of the part each person concerned, appointer and appointee, must play.

Possibly, not too remotely connected with a saner attitude toward the committee system, democracy may be at stake. The bureaucratic outgrowth is certainly akin to the committee system. The diffusion of activities is certainly worse than inefficient. Quite as surely, the demagogic state, though more efficient, is unduly perilous. We, the people of the world, have supported kings, revolutions, tyrants and democracy,—none with really great success. Democratic principles underlie many forms of government, but democracy gets fouled up in politics and bureaus. Assume, hopefully, that Rule 1 cut bureaus to a minimum, Rule 2 defined the duties and limits of each and kept it in line, and Rule 3 made sure that each was specifically advisory (probably dealing with facts), executive (like the Treasury Department), or judicial (have we anything better than the Supreme Court?). Assume, hopefully, that those employed worked with authority and support, without bureaus; if need be, let impeachment or failure of reappointment take care of the incompetent, undemocratic, or injudicious. I repeat, this is undemocratic only when the man who tends to his work fails to consider the rights and ideas of those with whom he works. This form of autocratic attitude is no longer tolerable; it has never been good judgment.

To save democracy by revision of the committee system may seem a bit ambitious but there can be no doubt that we can improve on the committee system. Let those who call for committees, those who appoint committees, and those who serve on committees beware. Perhaps, we should have an executive committee for a wholesale execution, a purge.

Anchorage Points to Health Education Inservice Training For Health Educators in Undergraduate Medical School

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Health educators are needed, and physicians add to the store of resource persons in the field of health education.¹

"Medical Schools should give additional education to medical students in regard to (a) the relationship of the physician to the school and the community; (b) the physiology of exercise and the function of physical education in the life of the child; (c) the pediatric examination (in the life of the child**); (d) how the school physician may function as a medical advisor rather than a mere medical inspector."

The general objective of medical schools must be to develop critical mindedness in relation to the changing nature of the role of the health-educator-physician. There must be a way of determining what teaching materials for medical students are directly or by correlation fitting them to assume the role of physician-health educators.²

The object of health education is to change health behavior. Each medical school is the center for the in-service training of physicians who will give understanding, meaning, logic, evidence, proportion, implication, relevance, inference, validity, and support to the community health needs.³ There needs to be an understanding of a distinction between inference in the solution of individual health problems and implications; understandings by what is meant by "conclusive evidence or proof."⁴

Most medical schools offer from 2,950 to 4,000 hours of class instruction. What amount is being offered in direct and indirect guided, sequential quietly infiltrated health education? No courses labeled "health education, recreation and physical education" appear in University catalogues. How is the in-service training of the medical man insured? Is preventive medicine and public health the center? Medical schools are in a position to direct much of the scope and trends in health education because they have been the promoters of education in health and are classed as institutions of higher learning.⁵

The Constitution of the American Medical Association defines its functions as "promote the science and art of medicine and the betterment of public health,"⁶ and more recently in the program of the American Medical Association for the Advancement of Medicine and Public Health,⁷ "To inform the people of the available facilities and of their own responsibility in health care."

Nemir⁸ says that "there are many fields of health taught in a University in

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which the knowledge of the physician is invaluable." To meet the objectives of training in health instruction there must be much study of the curriculum.⁹ Russel says.

"In the United States the most frequently employed approach in examining the medical curriculum has been through the agency of special interest groups."

A special committee has been appointed by the Surgeon General of the Public Health Service to study the cost of medical education.¹⁰ Actually, each individual must evaluate the cost of his education in health, since the heart of the learning process is self evaluation. Each student must be capable of choosing worthy goals, and through self discipline make value judgments. The evaluation of student growth in knowledge, attitudes and practices relating to health must be established as a part of the curriculum process. A preliminary step in evaluation is to review the objectives, make a job analysis, and find out what section of the curriculum is making the contribution. To provide for planned, sequential, guided learnings in health education there must be a well organized library and integration of audiovisual aids.¹¹ . . . various ways are suggested of making the community, school and institution offer a coordinated program to fit needs, interests, individual differences, readiness and motivation, maturation and learning according to the function.

A systematic judgment of observers in health education is the start of the research techniques in developing health education objectives. To have a job analysis there must be a tabulation or item analysis of activities, ways of participation and means of engaging group and individual interaction leading to behavior outcomes.

In view of the great advance in the sciences and healing arts, and the realization on the part of health educators that proper educational procedures plays an important part in making these advancements, there is an increasing demand for educational preparedness for properly trained workers to carry on health education programs in the field of medical professional training.

The past decade has witnessed developments in community health education in particular. Mechanically, scientifically and pedagogically sound teaching materials are needed to strengthen the pool of information to nonprofessional citizens. Field experiences such as chest-X-ray surveys, such as are being done in Los Angeles through the City Health Department, Community Health Agency, and the Tuberculosis Association, enlist medical workers who have public minded health interests at heart and use much voluntary help. Medical students are useful in surveying areas of the community and making direct contacts with the people, thus identifying themselves with the whole project.

Appreciation of health must be gradually built into school children. The school physician has his place in doing those pieces of health instruction which lead to sensing of the importance of total health, and valuing health services and facilities. Understanding is acquired over a long period and most children

are aware of individuals long before they are aware of well accepted practices. The physician must teach by example. He must pass on information as needed and impart knowledge to tender minds. He must interpret problems, facts and principles to those who have not acquired skills in medicine, but, of necessity, must solve individual health problems.

Adolescents want to see health relationships, know their meaning and implications. A physician who watches the football game with the team he is responsible for, is not a doctor to them, but a 'regular fellow.'

A list of life activities for any given age would suggest that health needs are on top of the pile. The world is in a state of constant unrest, health needs are accentuated under stress. Some of the immediate considerations are: What are the wide spread effects of unemployment, insufficient housing, poorly met nutritional needs, increasing accidents and other aspects of health as a social factor on the coming generation? Any list of life activities should accurately represent the whole life span. It should contain all the present activities, future needs, and the things that must be done in accordance with individual capacity, abilities, needs and interests. Doctors who will be health educators need to take child growth and development under consideration if they are to correlate health educational needs for any given age or sex.

The purpose of health experiences determines the means and materials employed and the procedures followed. Before nutritional measures in a health and welfare department are in order, a survey of existing food habits should be set up, and the needs of the people in that locality should be evaluated scientifically in an objective manner. A few sample diet histories are not enough. A few tours to school lunch counters will not tell how people buy food, prepare and serve it. Several means for evaluating the nutritional status should be employed including laboratory, clinical and medical inspection. An Iowa farmer raising chickens may not eat eggs, nor a Wisconsin farmer loading potatoes eat potatoes. It is only what is actually consumed that influences production, distribution and need for supply in accordance with demand. The complexion of the nutritional study will be reflected, in part, by the thoroughness of the training of competent investigators. This is but one small sector of health education to illustrate the need of the democratic process and the need for the election of the best in the scientific method.

TRENDS IN HEALTH EDUCATION AND SCOPE OF HEALTH EDUCATION

Exercise and play interests; desire for participation; air and oxygen; means of changing the air in a room; fresh water, internal and external, applied as needed; environmental control or sanitation as clean premises; social health in accordance with growth and development; family health and sex education—readiness and interest; emotional adjustment and temperment health-atmosphere; proper diet and food habits—selection, purchasing, preparation; mental health—ability to solve conflicts by acceptable methods; purity of thought and correct motivation of action-philosophy; proper personal appearance, suitable clothing, grooming; firm trust in God and stability of religious

convictions; mature, integrated personality with an awareness of principle.—Worthy home membership, citizenship, etc.; temperance and consumer-buying in accordance with needs; physical activity, creative activity, mental activity; work and labor with suitable adaptation to capacity and rewards; cleanliness, freedom from disease, washing facilities; physical plant conducive to freedom from fatigue while employed—has more energy than the job demands; culture, beautiful surroundings and closeness to nature; absence of harmful drugs, alcohol, stimulants; abstemiousness—not too much of even the best of things; financial security to give some peace of mind and not unrest; sunlight and light; teeth and physical defects corrected, absence of communicable diseases; correction of remedial ear, nose, throat and eye defects; freedom from accidents, safe and sane living.

Do medical schools offer adequate and coordinated health education training and meet requirements that the home, school and society will demand of the practitioner? What courses relate most closely to the field experience of the health educator? Identification of public health courses are certain, but where do courses such as mental hygiene, sanitation, nutrition, social health, family health and others in the scope and sequence fit into the program? A curriculum coordinator knows that 60 hours of nutrition are offered in 4,000 class hours of instruction in four years of undergraduate medicine, but does the student know enough about it to even make suitable choices himself? One can only do what one has learned. Do state boards ask questions which relate to realistic health education situations? Do the types of instructors make the difference in the emphasis that is given to initiating field experience in health education? Sufficient evidence is on hand to indicate that progress is a relative term, and pioneer work in some aspects of health education still needs to be done.

In selecting ways of teaching medical students health education subjects much can be said. An exhibit is used in one school, and the exhibit is always limited in time and space, and these limitations tend to impose restrictions on the topics that can be covered. The demonstration must tell its story within the limits of time and space. Communication by the lecture method is not the method of choice. Educational psychologists have doubted the real effectiveness of certain movies in achieving a "transfer" to the pupil of the important facts and principles sufficient to result in behavior changes. Methods, approach, techniques, teaching devices, activities, cumulative learnings and procedures are all needing review before adoption. We need to weave heavier designs in some subjects related to health education than in others. Knitting together of all the parts of an interacting subject like health instruction to a particular situation takes skill, enthusiasm and courage. Constituted authority should study health education offerings in relation to the whole pattern.

Here is a sample of an ongoing process in community health education in the Los Angeles area.

A survey of 9 Los Angeles blocks by medical students was initial. Each person who entered the health survey of the Community Health Association,

which conducted its first survey of the East Los Angeles Area in the Spring of 1948, was a potential health study club member. The survey made the people conscious of health needs and facilities, and so many of them availed themselves of the services freely offered the two days in the White Memorial Admitting Clinic as conducted by various associations in affiliation with the Community Health Club. Having made the initial survey, the nurses and doctors were prepared to evaluate the hostesses and locations for the health study clubs. Each hostess was anxious that her house be filled, and it had to be arranged to have some of the homes used where small groups could be reached, hence from four to five meetings were scheduled for one evening and it had to be made clear to the hostess that crowding would defeat the purpose. For group meetings in which feed-back from all groups was possible, the Jewish Social Center, and such large auditoriums as were available in the community were used. Group meetings were interspersed with unit cottage meetings in order to have adequate unification and to bring a sense of oneness to the various groups which had several hostesses and speakers. Medical students observed group needs.

After each meeting individuals were asked what they thought of (a) the subject: was it worthy of discussion? Should their friends have heard it? Why do people need to know about health? (b) The next subject: could they invite someone out? Could they come themselves? Was the topic interesting?

The functions of medical health educators show that research in the medical field, such as methods of prevention and control of preventable diseases demands people who adjust to the wheels going in other directions than they did a decade ago. The needs of the child and individual do not change, but the method of educating the child in the modern school has changed. Instead of using plays to teach health, instead of using skits and charts on bad habits, the child in 1950 is the product of all health experiences. To be totally integrated to his environment takes wise teachers who lead and do not drive home the health instruction.

Participation by all students in a joint project jointly agreed upon, planned, executed and evaluated is basic to having health education functional and realistic. A superimposed control is not what is needed to bring freedom in thought and action. To give direction and control, the project must have personnel with special skills who can interpret the direction the project is taking. Framework of reference, workable blueprints and easily interpreted data is what students depend on from the personnel. The framework of reference changes according to the nature of health problems, the public health concepts, the structure of society, the functions of the institution and the spread of popular knowledge about health. Health clinics are popular, accessible and readily interpreted in terms of services. They are one phase of health education. It is much harder to build attitudes by stimulating group discussion and interaction in school health councils than it is to develop skills in first aid. Both are indispensable parts of the health educator's equipment, but

it is far more difficult to find a place in the curriculum where he is taught the newer methods of changing health attitudes, building experiences, finding ways of doing or practicing health. Where are formal classes measuring changes in health attitudes among medical students themselves?

1948-1949 HEALTH STUDY CLUBS

The health study clubs were part of the Community Health Association contribution to the welfare and health of the individual citizens of the Los Angeles, North Boyle Eastern Area. The population is largely mixed,—Negro, Mexican, Jewish and Japanese. The 9 block plan, described as the "heart" of the East Los Angeles area, was developed before the health study clubs. The health survey came before the 9 block plan. All the phases of health were developed according to the expressed needs and interests of the group. Health study clubs were attended chiefly by Caucasians and Jews living in the immediate vicinity of the hostesses indicated.

Previous to the beginning of the health study clubs, preliminary meetings were held with the Community Health Study Club, conducted by Dr. Ruth Temple, Marian Nelson and student-faculty medical leaders, student nurse and affiliated groups. The speakers for each unit were chosen for their willingness, ability and cooperation to work with the continuing project. The types of speaker to direct and coach the medical student or speaker for the evening in each hostess unit was a recognized authority from the College of Medical Evangelists. All the speakers chosen were interested in the whole project and were familiar with the topics that would come before and follow after, thus making their articulated program one of intense interest because it did away with duplication of instruction from the start.

Homes for the meetings were found through the leaders of the 9 block plan, and those who had expressed and indicated their home as a place to conduct the meetings. All the hostesses were notified of the speaker, subject, and they did what they could to invite guests.

Topics taken up and discussed by doctors and medical students were:

Poliomyelitis; syphilis; gonorrhea; communicable diseases of childhood; tuberculosis; respiratory infections; cancer; heart disease; mental health; mental hygiene; nutrition; positive health; housing and sanitation.

There were two group meetings and eleven unit meetings. The 46 unit meetings were held from Nov. 16, 1948 to April 19, 1949. The speakers included specialists in physical medicine, syphilology, tuberculosis, pediatrics, internal medicine, malignancy, cardiorenalvascular disturbances, neurology, psychiatry, dietetics and nutrition, sanitation and general positive health. Participants included housewives, dietitians, nutritionists, health educators, public health nurses, sanitarians, public health officers, externs, interns, residents, chiefs and medical officers. The notices were directed through the public health nurse in charge of recording and integrating nonprofessional services.

In 1949-1950, the group carried on mental health programs and participated with citizens in similar health study clubs; 1,786 persons attended in two years.

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Doctor Means Teacher

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The word "doctor" is derived from the Latin, *doceo*, which means "to teach." But the word "teacher," as well as the word "learning," means different things to many people. There seems to be agreement, however, that if more citizens had more knowledge, and the will to act in certain areas, we would have healthier communities. How does the physician, vis-a-vis the patient and the public, play his role as teacher? Is he being equipped to do so in medical schools today? Or even more basically, does the medical student see himself as one who can influence behavior significantly, as a teacher in need of special understanding and "know-how?"

The Long Island College of Medicine, now the College of Medicine of the State University of New York Medical Center at New York City, started a series of three hour seminars in the fall of 1947 to find the answers to these questions.¹ Twenty-seven sessions in groups of about ten, have been held to date (Summer, 1950) involving approximately 300 fourth year students.

The seminar procedure has remained essentially the same from the start—free, informal discussion, invariably continued by common consent without any "rest periods" or interruptions during the three hours. Toward the close of each session, the students are urged to comment frankly on the content and methodology of the class, and each speaks in turn without interpolations from the discussion leader. The proceedings have been recorded completely.

Following are several fairly typical, evaluative comments made by the students, and in their own language:

"I think the business of free association, free talking debate is one of the most stimulating ways to conduct a discussion and frankly I think that the whole business correlated many parts of the matter which were completely disjointed and put them all in one packet for us. I know I got a lot out of it."

"I like this idea of sketching, and bringing out points for the benefit of the patient, and the importance of attitude toward the patient in the office."

"We are conscious of presenting health in general in 4 years and certainly we will try very much in future years to do something about it. At least, in one session, we are made more aware of the fact that things can be done by the individual physician."

"I think that it would be nice if some of these little techniques that are very time-saving could be emphasized, because I picked up something here which I think is very valuable."

"The discussion was illuminating to me because I found myself often thinking inadequately because I was placed in a position where I had to think on the spur of the moment. I know that in an office I will be in that position where someone may ask me a question as you did."

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"Very often things that I may think are obvious are ones I don't have clear ideas about, and I only realized it when I discussed them today."

"We may slip up in our approach to patients, we may be a little rough when we should have been a little more polite, and maybe a little more aloof than more friendly, we may not do the little teaching we should. I think if these facts are brought to you time and time again, you are more or less impressed with it and you become more aware of it, and it becomes more or less a habit."

"Well, I think that if we expect to be teachers ourselves, and certainly in the practice of medicine we are going to be teaching at all times, you don't ever do anything for patients without teaching something good or bad,—we certainly have to be able to learn ourselves from everything we possible can. We can learn not only from recognized sources of learning, but we can learn from each other and discussions of this type are a very good method of learning."

"As far as the learning, a lot of us did more thinking this afternoon about the problems that will come up than ever before."

"I think the one thing that should have been stressed more in the last two years is the doctor-patient relationship. We have had so much contact, or at least we feel we have, with patients in the last few years that any bad habits we have formed could have been avoided which we may have to break ourselves of. These points should be stressed more firmly all along in our medical school career, especially in the 2nd and 3rd years."

"I think there is one point we might remember and that is there is a tendency on the part of the doctors to forget the distance between themselves and the layman who doesn't understand all this terminology."

"I liked it. This is one of the few times in our career we had to sit down and actually think about how we approach our patients, and learn better techniques through education."

"I didn't realize how difficult it is to talk to patients. We use an entirely different language and an entirely different approach, and I kind of like this seminar business."

"It makes us verbalize our thoughts, and in so doing, we clarify to ourselves where our shortcomings are."

"I learned an awful lot from John, the way he handled that diagram, it never occurred to me that at an informal lecture sort of session, I would pick up anything like that."

"It did show us, as future physicians, that we have a responsibility toward the public on health education and it gave us food for thought. I found it very exciting."

"I think it made us realize also that many of the things we have known actually but have not been exactly conscious of it were brought to light and it's good to learn these few techniques and about literature and service."

"I picked out, frankly, at least 4 or 5 pointers which I think, if my memory will serve me right, will come in very handy in practice later on."

The discussions are guided in the largest sense by a 3-point, broad procedural outline or plan which is to shift the focus of discussion progressively from concern with "the doctor and his patient," through "the doctor and the schools," to "the doctor and the community—" the shifts to take place only when the group's interest in the area under discussion has waned appreciably. As a start for each discussion, the group comes to two general agreements:

1. In what areas would increased knowledge and action contribute to the ability of people to live more healthfully?
2. What is learning?

In answer to the first question, the range of suggestion and agreement is considerable. It includes anatomy and physiology; diet and nutrition; physical and mental hygiene; preventive care, immunization, vaccination, and periodic checkups; availability of public health services; the nature of infection, communicability, and disease processes; chronic illness limitations; safety habits and accident prevention; sex education and prenatal care; home nursing; child

care; sanitation; how medical science develops; rejection of "stigma" of disease; avoidance of quacks or spurious advice; where to obtain qualified medical services; and intelligent use of the doctor.

The attempt to define "learning" is always interesting for often students find the concept of "knowing" linked with "doing" a strange new one. Agreement is reached, however, that the transmission of knowledge or fact alone, or the retention of fact or experience in the consciousness, are not, by themselves, adequate working definitions of learning. The goal is, of course, to help people act on sound knowledge.

But people are rarely moved to action on the basis of fact alone. Respect, dignity, participation and emotional satisfaction are essential components of successful motivation for action. In "the doctor and his patient" area, does the physician encourage learning? Significant in affecting behavior are what he does or does not say, the manner in which he speaks, his actions with or without words, the procedures he follows, the office setting.

During this part of each seminar, the students engage in two experimental activities which have proven highly successful and popular. Flowing from the discussion of the importance of the doctor's appreciation of the tension and unexpressed fears or questions a patient may have, the group engages in "role playing." Thus, to test, in a recognizedly artificial setting, the ability of the doctor to provide explanation and to give assurance to a patient, one of the students assumes the role of the physician, and another the role of the patient. The "patient" is described briefly, as, for example, "a middle aged shoemaker, with high school education, married, with three children." His "complaint" may be "elevated blood pressure," discovered during a routine examination.

The two students usually play their roles with considerable earnestness and imagination, while the observing students make mental notes. Factors which come under scrutiny, and which are later discussed at some length, include the choice of words spoken by the "doctor"; his answers to or evasions of the "patient's" questions; his appreciation of those "patient" concerns only hinted at; his consideration of anxieties which might logically be presumed, and which merit exploration; and his methods of placing the "patient" at ease, or of providing him with an opportunity to express himself.

The second activity which students have enjoyed and profited from, grows out of the discussion of how doctors could give some patients simple, clear and adequate explanations for certain conditions. The value of existing diagrams is discussed, but their limitations, springing from the fact that they are usually prepared for other purposes, is brought out. The superior value of individualization, of the special sketch for the particular individual, for his problem, drawn to his comprehension and need, and which may be carried away by him, is recognized. However, there is usually doubt among several students that they can produce useful sketches.

Blank sheets of paper are then distributed by the discussion leader and

another "patient" is hypothecated, with some medical problem requiring explanation. It may be that the "patient" has a cystic kidney, necessitating its removal, and an enlarged prostate. The students are asked to make a sketch designed to supplement a verbal explanation of the condition and of the surgical action necessary. The discussion leader secretly notes the time it takes each student to complete his sketch. When the last student has finished his drawing, all the sheets are collected by the discussion leader who sorts them for the purpose of illustrating certain points in sequence. The students are asked to guess how long the sketching took, and, invariably, the guesses are too high. Rarely does it take the slowest longer than 2 minutes to complete his sketch.

One by one the sketches are returned to their makers who proceed to discuss and explain the problem, using the sketch, as if the rest of the group represented the patient. At the end, there is animated discussion about the merits and faults, the telling points and the oversights, of the various performances. Some of the factors discussed concern size of drawing, portrayal of parts necessary to the explanation, positioning, use of body outline and actual touching of the patient, sight and appearance of operative scars, explanation of function, bodily compensation, assurance of continued abilities, use of analogy, and choice of words. It also becomes evident to the group that all of the sketches were useful, no matter how crudely drawn.

These two activities, role playing and sketching, prove successful because of the student participation necessary, and because there is learning from each other in direct relation to personal effort. The practical aspects of the subject matter under discussion heighten the interest. Other subjects discussed during this first segment of the seminar session include the role played in the learning process by office secretaries and nurses; patients' questions, asked and unasked; use of pamphlets and other literature; physical examination and diagnostic procedures; office and hospital settings and routines.

During the discussion in the second area, "the doctor and the schools," subjects touched on include the nature and forms of health education in school systems; the relations that physicians in varying circumstances may form with teachers, school boards and administrators; and medical practice, the school child and parents.

In the third area, "the doctor and the community," the following, among others, come under discussion: public and private, federal, state and local health agencies; addressing community groups; health educators and other resources; the mass media, misleading advertising, and charlatanism; medical societies and special committees; and participation in joint community endeavors.

A straightforward lecture might conceivably "cover" these subjects in three hours. The likelihood that significant learning would take place, that the future actions of the students would be influenced, is slight. It is especially

in this area of attitude toward, and action with, of approach to, and appreciation of people that the discussion method is essential.

Because the time spent in each segment of the seminar is determined by student interest, and desire to continue to explore meanings and possible action, three-fifths of most sessions have been devoted to "the doctor and his patient," and about one-fifth each to the remaining two areas. A general student comment is that the material is vital and important enough to them to merit several sessions, necessary for adequate consideration.

Other specific suggestions from individual students, finding ready endorsement from many others, have included the recommendation that the medical student be given a chance to face a private patient in a private office setting under competent supervision. Thus his weaknesses and strengths might be analyzed, and certain habits and attitudes might be determined, and directed. Students have expressed a wish to have the opportunity to "lecture" to community groups, or to lead discussions on health subjects. A critical examination by the students of widely produced health education pamphlets available to them would also prove useful.

The answers to the questions posed at the beginning of this brief report point to several unmet needs of medical students, and to the beginning of an attempt to meet them. Students need to be sensitized to the meanings that they as doctors will have for patients, to the opportunities that exist for them, in office, hospital, school and community, to deepen and direct their influences as teachers upon the learning of the public in all subject areas summarized at the start. They need organized opportunities to examine, evaluate, and try out tools and techniques which will enhance their effectiveness as doctor-teachers. And they need, constantly, to have the patient as a "whole person" kept to the fore throughout all of their medical school training. The seminar discussions described here are but a first step toward meeting these needs.

Problems in Graduate Medical Education

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In a previous communication, the term "graduate medical education" was defined as any form of educational endeavor following the attainment of the degree of Doctor of Medicine. In order to keep this discussion free of argument concerning terminology, it is essential that this definition be accepted in the broad sense, although it is recognized that the term is subject to wide individual interpretation. For the purposes of this discussion, little is to be gained by entering into involved definitions of "graduate," "graduate medical" or "postgraduate medical" education. Accordingly, we should like to sidestep this pitfall and dwell on some of the current problems in graduate medical education.

SHOULD GRADUATE MEDICAL STUDENTS REGISTER IN A GRADUATE DIVISION OF A UNIVERSITY AND PURSUE COURSES LEADING TO ADVANCED UNIVERSITY DEGREES?

This is probably the crux of the entire problem of graduate medical education today as it relates to university control or influence. Perhaps no issue conjures up greater feeling and differences of opinion among the faculty than this basic question. The problems that arise immediately are,—what degree; what is the purpose of the degree, what are the criteria for fulfillment; why should a degree be offered? If a degree of Master of Science, Master of Medical Science, or some such variation be considered, how does this degree appeal to a student who already holds a doctorate? Would it be more appropriate to consider the degree of Doctor of Philosophy or Doctor of Medical Science as more fitting the needs of the graduate medical student?

In favor of a program in graduate medical education leading to an advanced university degree are the following facts:

1. A degree program appeals to most graduate medical students, especially those who are full time within the various departments of the school of medicine. This is attested by the fact that 72 graduate medical students at Tulane University this past year pursued courses leading to advanced university degrees, not counting the registrants in public health.
2. The establishment of a degree program within the various departments of the medical school insures the operation of an intelligently planned schedule of graduate medical instruction. Regrettably, some graduate medical students not pursuing a degree program find their courses of instruction unwieldy, disproportionate or nonexistent.
3. A degree program insures registration of all graduate medical students

in some central office, whether it be the graduate school of the university or some division of the school of medicine. More will be said about this point later.

4. The degree program is *prima facie* evidence to sponsors of certain graduate medical students that their trainees are receiving planned instruction. By the same token, the graduate medical student feels, too, that he is receiving something in return from the school of medicine for his time and efforts. For it must not be forgotten that graduate medical education is expensive not only from the standpoint of the school of medicine but also from the standpoint of the graduate student himself.

5. The degree program becomes an enticement or recruiting factor for some graduate medical students, especially in the basic science (preclinical) fields or other fields not immediately related to medical practice. Achievement in these fields is denoted generally by an advanced degree; an accrediting agency, such as an American board in some clinical field, does not function along the same lines in the basic science fields. The degree, therefore, takes on added significance.

6. Finally, the question must be raised concerning what milestone, other than a degree, can a university or medical school establish to measure progress of the graduate medical student? The degree may not be the desirable yardstick of graduate medical education, but it is serving as a substitute until a better one can be evolved.

Against the development of advanced degree programs are these challenging problems:

1. The connotation of the degree, whether it be at the level of Master of Science or a doctorate, should be defined and accepted by the faculty. Few will oppose the view that it should indicate unusual achievement or intellectual promise. This means that it should be restricted to the exceptional graduate medical student, who, after serious consideration by the faculty, should be invited to embark on a program leading to an advanced degree, not enroll in the program as a matter of course. By such high standards, few candidates will be found annually in the school of medicine, and some departments may experience a lapse of several years without a successful candidate.

2. The criteria for the degree should be outlined. Unfortunately, this is not an easy matter to solve. It brings up several pertinent questions: Are the clinical sciences, pediatrics for example, capable of being subjected to academic discipline? Can such functions as patient care on the wards or in the outpatient department, teaching seminars, conferences, undergraduate instruction, and the like, be evaluated in terms of credit hours? Can work performed elsewhere be evaluated and the credits transferred to the university in partial fulfillment of the requirements of the degree? In certain instances, the criteria for the degree have been defined by an accrediting agency not connected with a university, such as the American Public Health Association with regard to the degrees of Master of Public Health and Doctor of

Public Health. In others, such as the basic science fields, the graduate medical student has enrolled in the graduate school of the university which is not under the aegis of the school of medicine. This has led to considerable difficulty with the operation of a program for graduate medical education.

3. The presentation of the thesis is a special problem. The investigative work necessary for the thesis frequently requires separation from the clinical aspects, teaching duties or other assignments of graduate medical education for an extended period of time. The student preparing a thesis requires facilities, space and often personnel which are at a premium in many schools today. The nature of the thesis may not represent any greater depth of research than that performed as daily assignments by many departmental assistants or fellows. The thesis should preferably be developed in the major field of endeavor, not the minor one, but this is not easy of attainment in many departments of the medical school. In some of the clinical fields, for example, radiology, it is difficult to provide the facilities and other opportunities commensurate with the purposes of the study. Again, with regard to the clinical fields, the thesis committee of the faculty confronts the dilemma of whether the graduate medical student should be examined solely on the problem of the thesis or on the overall proficiency and knowledge of his major field.

4. A program leading to an advanced university degree must have the wholehearted assistance and cooperation of all departments within the medical school, and frequently with other departments of the university, in order to succeed.

5. The practicality of instituting advanced degree programs in most medical schools today presents formidable problems that cannot be overlooked. It must be admitted that there is an appalling shortage of faculty available in many medical schools to undertake the supervision of an adequate degree program, especially in the schools of medicine in which both graduate and undergraduate teaching responsibilities are assumed by the same faculty. The basic science departments, particularly, are overloaded with essential undergraduate teaching, as well as research commitments, to consider additional teaching at the graduate level. Appointments to the faculty of medical schools are usually spurred by the necessities to fill certain niches in undergraduate medical instruction, which further exaggerates the shortages of faculty, technical personnel and facilities for graduate medical education of a high type. The unalterable fact remains that too few medical administrators are aware of the amount of time devoted by many departments to graduate medical instruction as contrasted with undergraduate teaching. In some of the clinical fields, more than one-half of the teaching time of the department is expended in graduate medical education, though such expenditure may not be recognized nor accounted; nor should it be overlooked that the number of graduate medical students (interns, residents and assistant residents, fellows, research assistants, and other categories) may actually exceed the number of under-

graduate medical students. And, certainly, the quality of the instruction and the consequent demands for more painstaking preparation are far more exacting for graduate medical teaching than for the undergraduate exercise.

We have not attempted to discuss the administrative and other difficulties involved in the integration of the house staff of a teaching hospital into the degree program of graduate medical education. It would seem that these difficulties are so acute and obvious as not to warrant further discussion.

From these remarks, we conclude that the advanced degree program of graduate medical education is deserving of further serious study; it is not a program that can be undertaken by the school of medicine without considerable thought and preparation. The accumulative experiences of graduate schools in general within the various universities should be analyzed to glean the facts which may be applicable to a program in graduate medical education. The objectives, philosophies and scope of graduate medical education should be defined in practical terms as it relates to medical practice, teaching or research. From these data, the faculty must then determine whether such a program is feasible with the available personnel and facilities. If the evidence is conflicting or unconvincing, it would probably be the wiser course to avoid the establishment of such a program until more favorable circumstances are present.

This brings us to the second major problem confronting medical schools which are active in various phases of graduate medical education, namely, the administrative problems concerned with the operation of such a program. These are so diverse and numerous that a listing will probably prove to be the most effective way of discussing the subject.

1. SHOULD ALL GRADUATE MEDICAL STUDENTS REGISTER IN SOME CENTRAL OFFICE? HOW DOES ONE DEFINE THE GRADUATE MEDICAL STUDENT FROM THE STANDPOINT OF REGISTRATION, FEES, TUITION, ETC.?

This is not the place to bring up the controversial problem of the definitions of the categories of personnel to be found about the medical school, i.e., who are members of the faculty, who are graduate medical students *per se*, and who are merely employees of a research project, but it is appropriate to elaborate on some of the aspects of this question which are not usually appreciated by the faculty. In the first place, the majority of graduate medical students of whatever category will desire to transfer credits at some future date to a licensing board, a specialty board, the armed services, some other institution, or for other purposes. The geographic mobility of physicians which has been apparent for the past several years will probably continue for some time to come. During World War II, our office received requests from various licensure boards for a detailed program of graduate training that physicians had pursued as long as twenty years previously. Fortunately, such information is available from the registrar but such may not be the case if dependence is placed on departmental filing alone.

Second, registration need not influence the question of whether or not the

graduate medical student is appointed to the faculty nor on the rank that is conferred. There is no need for argument here; the purposes are entirely different. The same holds true concerning the question of payment of fees and tuition. If all registrants are charged tuition and tuition waivers are obtained for those who are valuable to the teaching program, a more accurate accounting of the graduate and undergraduate instructional costs is obtained. Moreover, it places the medical school in a better light with institutions or foundations sponsoring the tuition and fees of certain trainees, e.g., the Veterans Administration. It also inculcates the registrant as well as the faculty in general with the sense of responsibility and obligation with regards to the cost of graduate medical education.

Third, registration with the medical school or university entitles the graduate medical student to certain benefits that may not be obtainable under different circumstances, e.g., university housing, GI benefits, health and hospital privileges, libraries, recreation, access to community hospitals affiliated with the graduate program, assistance with medical licensure in the state or province, and even such mundane affairs as student football tickets.

Our experience leads us to advocate that all physicians pursuing graduate medical training of any type submit to registration and the maintenance of up-to-date personnel files in a centrally located office of the medical school or university. We are convinced that the wisdom of this recommendation far outweighs any objections that may be cited. It is conceded that the problem of interns and residents in a hospital not controlled or owned by the school of medicine presents certain administrative barriers to such policies but, fortunately, successful fruition is possible.

2. SHOULD DIVISION OF TEACHING RESPONSIBILITIES FOR GRADUATE AND UNDERGRADUATE INSTRUCTION BE RECOGNIZED FOR EACH MEMBER OF THE MEDICAL FACULTY?

At first glance, this may appear trite but there are many implications of the question that need clarification. For example, in the major clinical departments, no inconsiderable proportion of the faculty time is expended in graduate teaching, i.e., instruction of the interns, residents, fellows, assistants and other categories. Frequently it develops that certain members of the clinical faculty, particularly the volunteer staff, give practically all of their time to patient care, clinic operation and graduate medical teaching, but it is the type of teaching which, though valuable to the department, does not appear in the catalogue or other official records. As a consequence, these members of the department may receive less recognition than is due them with regards to appointments, promotions, research assistance and facilities, and the like. Special attention to this problem is needed from the medical school administration to make certain that such discrepancies are avoided.

There are other aspects of the question. Inasmuch as the basic science faculty especially is already overloaded with essential undergraduate teaching, the problem of obtaining assistance from this group is an acute one. It is

natural, perhaps, for the members of the basic science faculty to feel that their sole teaching obligations are to the undergraduate students; when these responsibilities have been discharged, the basic science faculty desire any free time for research, study or development. When approached to assist with graduate medical teaching, the immediate reaction is that such activities are extracurricular and should be subject to compensation. This brings up administrative problems for which there are no ready answers: Does appointment to the faculty of the medical school in any department or rank automatically include both graduate and undergraduate teaching responsibilities? Should the faculty be compensated for extra teaching loads at night, during summer holidays or at other times when they would normally be free of teaching obligations? Should graduate instruction be regarded as a voluntary enterprise by the undergraduate faculty, in particular the basic science group? Is it more desirable to establish fees per unit hour of teaching or more desirable to secure increases in the annual salary?

Another curious event in this regard has come to our attention. In community hospitals affiliated with the medical school, it may happen that many members of the attending staff of the hospital are not bona fide members of the faculty, yet these members of the staff exercise considerable influence over the training and administration of the house officers. What should be the attitude towards recognition of this type of graduate instruction? Should the medical school faculty disregard the data, findings and reports of this non-faculty connected attending staff?

3. SHOULD THE MEDICAL SCHOOL FACULTY BE APPORTIONED INTO TWO GROUPS: GRADUATE AND UNDERGRADUATE?

This may seem like an easy solution to the problems presented above but more profound consideration of this question invariably leads to an unequivocal "no." This question is so involved and complex that we shall cite only a few pertinent observations to prove our point. In the first place, the faculty need the stimulus of both types of students. Medical teaching at the undergraduate level should be dynamic and fluid; its ultimate function is to prepare students to practice medicine and surgery in the light of current knowledge. Since medical practice is always changing, influenced, as it is, by scientific, social, economic, military, governmental and other factors, so, then, must medical education be ever changing. The impact of graduate medical teaching is a salubrious one with regard to keeping the undergraduate faculty in contact with current problems in medical practice. The same holds for the graduate medical faculty. Specialization within a specialty develops all too easily at the graduate level of instruction; undergraduate teaching serves as an effective counterbalance to this trend.

Second, there would be no end of administrative difficulty in attempting to divide the faculty into two categories. Although several clinical fields, such as ophthalmology, otolaryngology, orthopedic surgery, are primarily conducted at the graduate level, no one would suggest that the undergraduate

student be deprived of some training in these fields. Other practical problems come to mind. Two faculties would need separate divisions of a hospital, separate operating time, separate clinics, separate hospital staffs, and the like. It would be utterly absurd as well as impossible to institute such measures in the average teaching hospital.

Third, there is a definite tendency for such a graduate faculty to become too large, too unwieldy, too lax in its academic discipline. In a sense, such a faculty becomes a waste basket for appointments which would not qualify for or fit into the organization of the undergraduate faculty. The result is one of gradual deterioration in faculty caliber, the very condition which one is striving to prevent.

Although these are but a few objections to such a proposal, the magnitude and implications of these remarks should uphold the stand that we have taken in this regard, namely, it is both objectionable and unwise to consider the development of a graduate medical faculty distinct from the undergraduate one. We should point out here that these remarks do not pertain to the established schools of public health which are distinct from the medical school nor to the graduate schools of medicine which have separate facilities, administration, faculty, and the like. We seek only the opportunity to cite our experiences in this regard and to direct attention to some of the many problems involved in such action.

4. WHAT ARE SOME CURRENT ADMINISTRATIVE PROBLEMS RELATIVE TO THE APPOINTMENTS OF GRADUATE MEDICAL STUDENTS?

By this, we do not mean such chronic problems as financing, student personal problems, the criteria for selection of personnel, and the like; we refer to some more immediate problems, such as state licensure, malpractice insurance, hospital staff appointments, health and family dependency, relation of the graduate medical students to the undergraduate students, delineation of the functions of the various categories of the graduate medical students, appointments to the faculty, tenure, the problem of research grants that are subject to yearly renewal, military service—to mention but a few. Each student, each department, each teaching hospital, each community, has different problems of an urgent character. Unfortunately, each demands individual consideration and solution; it seems impossible to generalize or to establish policies which are uniform throughout the faculty or the school. We can only say that of all the problems in graduate medical education, these administrative problems bulk largest in both number and in consumption of time exhausted in attempts to settle them. Perhaps, as experience accumulates, it will become possible to draw some conclusions, but at the present time one would be vain indeed to offer any but the broadest of generalities, and better not those.

Cancer Training Grant Programs as They Appear to a Council Member*

PAUL E. STEINER

Professor of Pathology, University of Chicago
and Member of the National Advisory Cancer Council
Chicago, Illinois

Two weeks ago, I addressed the assembled Cancer Coordinators of the medical schools on how the cancer training projects impress a member of the Cancer Council. I restated the objectives of the program and pointed out some of the good but more of the bad (although there is much less of the latter) in the achievement of this objective. In discussing the weak points on the program, two of them hit past the coordinators to the deans. Since the correction of these situations is largely out of their hands, the committee of the coordinators requested that I make these points directly before this organization. I am, therefore, here, reluctantly, but at their request. It is regrettable that it is necessary to bring a note of discord into your meeting which has no doubt been harmonious up to now. It is doubly regrettable to do so in these lovely surroundings, and triply so because the problem concerns only a minority of the schools. It should be made clear that the opinions expressed are my own and that they do not constitute official Council action.

In the brief time at my disposal, I shall try to restate the objectives of the cancer teaching program, mention the chief weaknesses shown by a few of the projects, and state the two things administrations can do to insure success of the program.

The stated purpose of the teaching grants is *to improve the teaching of cancer*. Note that it is not *the teaching of cancer*, but the *improvement of teaching*. This simple distinction at once eliminates many items as not being within the intent of the program. The fund is not intended to replace items previously present in the medical school budget, or for new activities which would be carried out anyway, even if this fund were not available. The latter does not constitute improvement over and above what would otherwise be done. The present Congress has on four occasions, I believe, expressed itself as against aid to general medical education at this time. Any use of these funds for that purpose would thwart the intent of Congress which appropriated the funds, and lay this part of the Public Health Service's cancer program open to criticism. The safe guide in considering an expenditure or activity would always be, not is this cancer teaching, but will it improve the teaching of cancer over and above that otherwise possible by my school.

These grants were made for the purpose of improving the teaching of cancer. This objective can be attained directly in three ways, namely, by teaching better what was previously taught, by teaching more, or by doing

*Presented at the 61st annual meeting of the Association of American Medical Colleges held at Lake Placid, October 24, 1950.

both. Indirectly, of course, there are other methods. The greatest good would probably be accomplished by these funds if they were used by a direct method.

How does the program, as a whole, measure up by these standards? Doctor Kaiser has recently compiled an impressive list of accomplishments to date. This is one way of measuring results. But it fails, in part, to distinguish between the expenditure of energy and attainment of ultimate objective. The best method of measuring the effectiveness of the program would be to measure changes in the quality of the product in the form of our graduating students knowledge and interest in cancer. Improvement in this product is the objective of the program, and its justification. If our graduating students understanding of cancer fails to improve, the program will have been a failure regardless of the number of new lanterns, typewriters, filing cabinets and museum jars purchased. The facts that Doctor Bierman's test shows, at the end of the third year of these teaching programs, so little improvement in our product, should give us moments of serious thought. On the other hand, the fact that a school with a strong program improved its product 15 per cent in this subject is encouraging. The California test measures factual knowledge and ability to reason out problems. It does not measure clinical diagnostic ability. Let us be sure that in evaluating our teaching programs we are measuring the correct end result, and that we are not fooled by material things such as equipment and enlarged staffs. These are the tools of the program, not its objective. The program can still be a failure if these tools are not used effectively. The desired end result is better medical graduates.

Remembering that the purpose is the improvement of teaching in cancer, and its objective greater usable knowledge by our graduates, how does the program look from a survey of the applications for grants? Most of the projects look good. A minority are less impressive. They may be better than they appear because data for full judgment are not always provided and present opinion is not based on project site visits. It would appear as if a few schools, now that their rooms must be saturated with equipment, would probably suffer very little if the grants were discontinued. Most would suffer seriously as salaries of key staff members and support of a strong teaching program come from this grant.

A few items in a few applications look weak. In addressing the co-ordinators these weaknesses were grouped under six headings, namely, excessive numbers of subprofessional personnel, excessive travel, expenditures for service functions, research remote from educational benefits, excessive diffuseness of the program and responsibility without authority to put through an effective program. The first four of these items can be corrected by the co-ordinators

themselves. The last two are interdependent and they can be corrected only by higher authority in those schools where the weakness exists.

In a few instances it appears that the coordinator is responsible for the program but does not have enough authority to put through a desirable program. In an effort to obtain cooperation he may have to cater to many departments. Where this results in a good teaching program there is no objection. Where it results in a program too diffuse to be effective, the purchase price of the cooperation, regardless of its size, is too high.

These two unfortunate situations can be corrected, where they exist, by relatively simple means. The school should decide (a) whether the objective of this cancer training program, namely, the improvement of teaching in cancer, is desirable and (b) whether it wants to set up a program for this purpose. If both answers are in the affirmative, then either the responsible person, usually designated the teaching coordinator, must be given sufficient authority to put through an effective program, or he must be supported adequately by someone in authority.

It is possible that in some instances the failure to give support to this program is due to lack of conviction as to its need. If such a school exists it would be desirable if it stopped reapplying for the grant. The program, as a whole, would be easier to justify before the taxpayer—and it must be so justifiable—if grants were not made to schools making half-hearted efforts, and if the funds so relinquished were not spent or if they were given to other schools having strong programs.

This program is expensive, and so large that the benefits ought to be easily recognizable. The program is costing, for the medical schools alone, nearly \$2,000,000 per year, not including administrative costs. The program, in some schools, will soon be in its fourth year. In many schools this year's graduating classes should have felt its benefits for three years, and they ought to be recognizably better for it. Many of us are of the old school who believe that \$5,000,000 is so large that its proper expenditure should leave a discernible impact.

This program was set up as a pioneer effort, with no rules and regulations whatever made by the Public Health Service except that the funds be used for the broadly stipulated purposes, namely, the improvement of teaching of cancer. The motivation was of the highest order. Perhaps too much leeway was given in the effort to escape the criticism of dictation. It would indeed be regrettable if any part of the experiment were to fail, not only because of adverse effects on cancer problems, but possibly on federal support of general medical education as well.

The National Advisory Cancer Council which initiated this program is charged by federal law with advising the Surgeon General of the Public

Health Service on it. This body is composed of private citizens. They recommended approval of the program when it was begun, they now scrutinize its degree of success, and some day they will have to pass final judgment on its effectiveness in attaining its objective.

In addressing the coordinators I gave three simple criteria which they may use in preparing their applications for renewal, which are here repeated. If each item in the application is evaluated in the light of the following standards, there can be no adverse criticism of the application.

- (a) Will this do the most for my school, not to teach, but to *improve* the teaching of cancer?
- (b) Is this expenditure being made for something which was formerly not done, and could not now be done if it were not for this fund?
- (c) Will this item result in the maximal impact on our students and not only on the medical school plant?

Present consensus of the Council, I believe, is that the cancer teaching project to date has been highly successful. Besides the benefits enumerated by Doctor Kaiser and those revealed by Doctor Bierman's test, many intangible, good side effects have accrued to the schools from these teaching grants. While these are desirable, the program will eventually have to be judged, not by them, but by the degree of success in attaining the main objective—the improvement of our graduating students. Success is the direct responsibility of each school. All of us interested in cancer education are desirous that success be of the greatest, and we wish you well in this program.

MEDICAL EDUCATION

Volume 26 No. 2

March, 1951

American Medical Education Foundation

Since the end of World War II, rising costs, inflation, decreased income from endowments and fewer large benefactions have created major financial problems for the medical schools. The schools have found it difficult to purchase new and replace old equipment, to provide salaries adequate to attract and hold competent teachers, to maintain libraries, and to modernize or expand their physical facilities.

The American Medical Association believes that the possibilities of securing adequate support from private sources are far from exhausted. It believes that once the need is made clear to the medical profession, and also to those outside the profession who value the contribution of our medical schools to society, adequate funds from voluntary sources on a continuing basis can be secured.

The medical profession has a primary responsibility of leadership in securing such funds. At its meeting in Cleveland in December, 1950, the Board of Trustees of the American Medical Association with the approval of the House of Delegates voted to appropriate one half million dollars as the nucleus of a fund for the unrestricted use of the medical schools during 1951.

The American Medical Education Foundation has been chartered as a not-for-profit corporation under the laws of the state of Illinois to receive annual contributions from physicians and friends of the medical profession.

Contributions received by the Foundation will be distributed to all approved medical schools in the United States. The funds will be given for unrestricted use, each school being entirely free to determine how best it can use its share to improve the basic training of its medical students.

It is recognized that the members of the medical profession alone cannot meet all the needs of the medical schools. Others must help. If the medical profession will lead the way, many others should be eager to make their contributions. By such a combined effort success can be achieved.

To make the Foundation an effective force for the maintenance of medical education, it is suggested that each physician consider an annual contribution of \$100. Many of the contributions already received exceed this amount. A physician who finds such a contribution beyond his means can still demonstrate his support of the Foundation with a smaller contribution. Checks should be sent to the American Medical Education Foundation, 535 North Dearborn Street, Chicago 10, Illinois.

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Tuberculosis, a Medical School Responsibility

From the days when Hippocrates taught, with such remarkable appreciation of the clinical manifestations of phthisis, on the Isle of Cos, until the time when Robert Koch discovered the tubercle bacillus, tuberculosis was the most common, the most readily available for clinical instruction, and presented the most diversified symptomatology and physical manifestations of all known diseases. Thus this malady became medical education's greatest boon.

Koch's discovery of the tubercle bacillus immediately gave rise to unwarranted hope of quick control but simultaneously it engendered fear of infection. These two concepts accelerated the development of sanatorium management. The element of fear combined with overemphasis on the importance of remote fresh air resulted in the relative isolation of those known to be suffering from tuberculosis.

Even many of the teaching hospitals shuffled tuberculosis out of the way in favor of sanatorium management as soon as a diagnosis was made. This practice left medical students, interns, residents and student nurses with an exaggerated dread of the disease while having no adequate chance to learn what it is like. At the same time they were being exposed to the perennial flow of undiagnosed cases hospitalized for other causes. Under these circumstances the danger of infection was increased because they were not fortified by a full knowledge of the multifaceted manifestations of the disease which they might have mastered if the hospitals had made proper provision for the care of such cases or if the medical schools had provided workable affiliations with well ordered, well staffed sanatoria or tuberculosis hospitals. Today every large hospital should have a routine chest Roentgen ray of every patient admitted and a special chest service for all tuberculous patients.

Since the hope that Koch's discovery might soon eliminate the disease as a serious health hazard is far in the past, and since the development of our present knowledge and methods of control makes contact much safer than ever before, and since the sanatoria and tuberculosis hospitals hold such a wealth of clinical material, it is not time for medical schools to realize the great loss they have suffered and fully assume their scientific, and public health obligations to a waiting world.

At the present time the American Medical Association, the medical schools and the national bodies having to do with the matter of approved hospital training have an additional responsibility. Considering public sentiment regarding present day medical care and the fact that in 1946 the Department of Medicine and Surgery in the Veterans Administration was created largely for the purpose of approximating civilian medical and surgical care insofar as possible and since the Veterans Administration now has 100,000 veterans adjudged to have developed tuberculosis in connection with military service and a tuberculosis bed

capacity of over 14,000. Would it not be wise for these constituted agencies to give serious thought to this wealth of teaching material and to the dual interests of the medical schools and the medical and surgical services of the Veterans Administration with reference to the teaching of tuberculosis.

In a broad sense, it is understood that the one goal of medical education is the prevention of disease, the treatment of the sick and the preservation of health. Here is a great opportunity in a highly productive field.

Lewis J. Moorman

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The Borden Award

Four years ago, in 1946, the Borden Company Foundation suggested for the consideration of the Executive Council of the Association the establishment of an award to be administered by the Association. This was to consist of One Thousand Dollars and a gold medal to be granted each year in recognition of outstanding research in medical sciences by a member of the faculty of a medical school which is a member of this Association. As now defined, the research must have been published during the five years preceding the Award.

Recipients of previous awards were:

- 1947 Vincent du Vigneaud, Professor of Biochemistry, Cornell
- 1948 George N. Papanicolaou, Professor of Clinical Anatomy, Cornell
- 1949 Fuller Albright, Associate Professor of Medicine, Harvard

Your Committee this year was composed of Brian Blades, Chairman, Charles Best, Harry Smith, Edward West, and myself. Because unavoidable circumstances prevented the attendance of the Chairman, I have the honor of announcing the Committee's nomination. We wish to establish a precedent—to propose as recipient a woman, Gerty T. Cori, who in the eyes of the Committee is one of the truly great women of our generation. She is an investigator of extraordinary perspicacity, originality, and resourcefulness; an influential teacher whose broad culture, effective wit and sense of humor

are as much appreciated as her wealth of knowledge. She is a woman whose devotion to science has never limited but has constantly enriched the fulfilment of her personal life.

Born in Prague, recipient of a doctorate of medicine from the German University of Prague, wed to her distinguished husband the year of her graduation, she came with him to this country in 1922 to work at the New York State Institute for the Study of Malignant Diseases. In this relatively obscure laboratory, the Coris established during the next nine years an international reputation.

In 1931, they went to Washington University, St. Louis, where their accomplishment is known to all the world. Indeed, their investigations in carbohydrate metabolism have been so fundamental and significant that no one can discuss the subject without thinking or speaking of the Coris. They have been responsible for the discovery of glucose phosphate, frequently known as the Cori ester, a substance crucial to the conversion of glycogen. They have disclosed, purified and crystalized polysaccharide phosphorylase, which is necessary for the synthesis as well as the breakdown of glycogen and starches. Now, with the handicap of ill health which would have crushed a less exalted spirit, Gerty Cori is engaged in the pursuit of a newly discovered enzyme, the debranching phosphorylase of animal tissues, in one of the most exciting scientific adventures of her eventful career.

There has been no lack of recognition for these achievements. As everyone knows, Gerty and Carl Cori received jointly the 1947 Nobel Prize in Medicine and Physiology, the first husband and wife to win this award in Medicine, Gerty Cori the first woman to receive the Nobel Prize in Medicine. They were given the Second Annual Midwest Award of the St. Louis Section of the American Chemical Society; the Francis P. Garvan Medal of the American Chemical Society; in 1948, they won the coveted St. Louis Award. Gerty Cori is an honorary Doctor of Science of Boston University, and

a member of the National Academy of Science.

In the opinion of the Committee it is an honor for this Association, so distinctly representative of medical teaching in this country, to recommend its own award to a woman who, herself a medical teacher, has done so much to stimulate and enrich the thought of medical students of this generation and of the generations to come.

The Committee recommends that the 1950 Borden Medal and Prize be awarded to Dr. Gerty T. Cori with the following citation:

"For her fundamental original contributions to the understanding of carbohydrate metabolism;

"For her patience, ingenuity and insight in the solution of intricate chemical problems;

"For the inspiration she has brought to her colleagues and especially to all women who aspire to the highest accomplishment in medical science."

DAVID P. BARR

(For the Committee)

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Dr. Roy Rachford Kracke

Dr. Roy Rachford Kracke was born in Alabama, December 5, 1897. He received his early education in that State including the first two years in Medical School at the University of Alabama, from which he transferred to the Rush Medical College where he received the degree, Doctor of Medicine, in 1928.

Doctor Kracke first became a member of the faculty in bacteriology and pathology at Emory University School of Medicine in September 1925, being granted leaves of absence at intervals to complete the clinical years at Rush Medical College and an internship in the U. S. Naval Hospital in Brooklyn, New York. He returned to Emory Hospital in 1928 as assistant professor of bacteriology and pathology. The following year he was promoted to associate professor of pathology and bacteriology and Chairman of the Department. He was elevated to the rank of full professor and Chairman of the Department of Pathology in 1934.

Doctor Kracke's approach to medicine was that of a fundamental pathologist; however, he expressed a keen interest in the clinical aspects of pathology. Though busy with the responsibilities of the professor of pathology in the School of Medicine and Director of the laboratories of pathology and laboratory diagnosis at Emory University Hospital, Doctor Kracke found time to consult with clinicians concerning the problems of their patients and the manner in which the laboratory could assist in the solution of these problems. In doing this he was particularly effective as he himself was a capable clinician as well as a pathologist. Doctor Kracke's research was similarly characterized. He sought the answer to a clinical problem through laboratory investigation and animal experimentation. His interests centered in hematology, a field in which he made many notable contributions. Doctor Kracke's widespread recognition is manifested by his membership in the American Society of Clinical Pathologists, Society of Experimental Biology and Medicine, Society of Sigma Xi, Phi Beta Kappa and Alpha Omega Alpha.

On August 1st, 1944, Doctor Kracke finally gave in to the repeated urging of the President of the University of Alabama, leaving Emory University to assume the position as Dean and Professor of Clinical Medicine in the Medical College of Alabama. This was at the time plans were underway to expand the Medical College of Alabama to a full four year school. Doctor Kracke was fully aware of the demands and responsibilities he would assume. These he had considered for many weeks. This decision was prompted by his love for his native State and his desire to create for the School of Medicine a place of influence in medicine throughout the State of Alabama. Through his enthusiasm, wisdom and devotion he secured the confidence and assistance of the faculty of the School of Medicine, the Administrative Boards of related organizations and

the medical profession of the State, whose support was essential for the accomplishment of the things he had in mind. His success is attested in the present School and its splendid future outlook.

Doctor Kracke will be missed by his many personal friends, professional associates, his former students and fellows and those who must carry on the work which he started at the Medical College of Alabama.

Russell H. Oppenheimer

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Listing Faculty Vacancies

At the Lake Placid Meeting the Association, in Executive Session, accepted the report of the Editorial Board which included a recommendation to the effect that space be given in the Journal for the listing of vacancies of the faculties of member colleges. A similar resolution was passed in the meeting of the group (A) which discussed this problem.

The fact which motivated these actions was the shortage of teachers in the pre-clinical sciences. By listing these vacancies there is every reason to believe that the attention of some of the readers of the Journal will be made aware of the existence of vacancies. Thus, contact between colleges and teachers will be affected.

It is suggested that notices of vacancies give all desired information to prospective applicants, such as rank, salary, opportunities for research, etc. The paper by Dr. Hinsey (published in November, 1950, Journal) was a thorough analytical study of teacher shortage, both existing and imminent, in our medical schools. This is a serious situation and calls for immediate action.

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Rear Admiral Pugh Promoted

Rear Admiral Lamont Pugh, Deputy Surgeon General, U. S. Navy Medical Corps, has been promoted to Surgeon General to succeed Rear Admiral Clifford Swanson. Congratulations Doctor Pugh.

College News

Hahnemann Medical College

Retirements: Joseph S. Hepburn, Ph.D., professor of biochemistry and Registrar of the College, retired on age. Dr. Hepburn will become Emeritus Professor of Biochemistry. Reinhard Beutner, M.D., professor and head of the division of pharmacology, retired on age.

New appointments: Walter H. Maloney, M.D., professor and head of the department of bronchoscopy and esophagoscropy; Harold A. Taggart, M.D., assistant dean. Dr. Taggart is associate professor of medicine. Jay S. Roth, Ph.D., assistant professor of biochemistry and Director of the Radio-isotope Laboratory; Joseph R. DePalma, M.D., professor and head of the division of pharmacology.

Grants and gifts: a grant of \$300 from the Therapeutic Trials Committee of the American Medical Association to the Division of Pharmacology; \$400 from the American Academy of Arts and Sciences to Dr. Jay S. Roth, of the Division of Biochemistry for the purpose of research in metabolism; an anonymous bequest of \$10,000, the income from which is to be used for aid to students doing research problems in the Institution during the summer months; \$23,000 from the Estate of Rose Klain Netter for the maintenance of and new equipment for the department of physiotherapy; \$2,400 to the Anna and Charles J. White Research Fund in Biochemistry to be used for the purchase of equipment in that Division; \$1,000 by the Meade Johnson Company to the division of Pediatrics for clinical research in problems of infant feeding; \$1,000 by the Mennen Company to the division of pediatrics for a six months' study of the effects of various preparations upon the skin of new-born infants; \$1,000 by the National Drug Company to the department of gastroenterology to be used for research; \$7,300 to be known as the Richard P. McNeeley Fund for the division of medicine for clinical investigation of various steroid compounds in rheuma-

tic diseases; from the National Heart Institute \$7,000 for one year to the department of thoracic surgery; renewal grant of the National Heart Institute, \$5,000 to the division of anatomy for continuance of a study of arteriosclerosis and hypertension in diabetic rats; renewal grant from the National Heart Institute, \$5,000 to the division of anatomy for the continuance of a study on enervation of ventricular myocardium; renewal grant from the National Heart Institute in the amount of \$5,500 to the division of pathology for continuance of a research project in hypersensitivity in cardiovascular lesions in rabbits; extension grant of \$24,800 from the National Cancer Institute to the department of oncology for cancer teaching; from the Commercial Solvents Corporation, \$2,500 to the division of medicine and the division of biological chemistry for research in arteriosclerosis; \$3,000 from Wyeth, Inc., for research in clinical medicine and therapeutics.

A modern and completely equipped radio isotope laboratory has been established in the Division of Biological Chemistry. The purpose of this laboratory will be to foster research with isotopes in the various departments of the College and also to provide facilities for the use of isotopes in clinical diagnosis and therapy.

Dr. Jay S. Roth will be in charge of the laboratory, and he will aid in the planning and coordinate research. The clinical program will be carried out in co-operation with Dr. Samuel Geyer of the Department of Radiology, and other hospital staff members.

Grants and gifts: \$5,000 from the Office of Naval Research for the study of the relationship of methionine to brain metabolism; \$13,500 from the Atomic Energy Commission for the investigation of the nutritional and other aspects of radiation injury.

University of Texas Medical Branch

M. Mason Guest, Ph.D., has been appointed professor of physiology.

Friends and relatives of Mr. H. H. Weinert of Seguin, Texas, former Regent of the University of Texas, have given additional grants of \$7,500 for the H. N. Weinert Cardiovascular Research Fund. The total endowment of this fund now exceeds \$25,000. It is used to support the research studies on cardiovascular diseases by Dr. George Herrmann, professor of medicine and Director of the Cardiovascular Research Laboratory.

Dr. William Shanahan, formerly of the Institute of Psychoanalysis of the University of Chicago, has been appointed professor of psychiatry and Director of the State Psychiatric Hospital. Dr. William A. Cantrell has been appointed assistant professor of psychiatry. Dr. Elmer I. Bruce has been appointed assistant professor of psychiatry and Assistant Director of the State Psychiatric Hospital. Frank B. Engley, Jr., Ph.D., has been appointed associate professor of bacteriology.

The Regents of the University of Texas have officially named the three major laboratory buildings at the Medical Branch. The oldest building erected in 1890 is to be called the Ashbel Smith Building in honor of Ashbel Smith, M.D. (1805-1886), Dean of the Texas Medical College and organizer of the University of Texas. The large laboratory building which was completed in 1931 has been named the William Keiler Building in honor of William Keiler, F.R.S.E. (1861-1931), the first professor of anatomy and Dean of the School of Medicine from 1922-1926. The laboratory building now being completed is to be named the Gail Borden Building in honor of Gail Borden (1801-1874), pioneer Texas scientist and nutritionist.

Dr. Henry R. Viets, Lecturer in Clinical Neurology at Harvard Medical School, Librarian of the Boston Medical Library, and Chairman of the Council on Scientific Sessions of the American Medical Association, gave a series of seminars on "The Applications of Neuro-Anatomy to

Clinical Neurology" and "Neurological Injury in Poliomyelitis."

Speakers at the Postgraduate Conference in Psychiatry held at the University February 5th to 9th included Dr. Ivan C. Berlein, professor of psychiatry, Wayne University; Dr. Franklin G. Ebaugh, professor of psychiatry, University of Colorado, Dr. Thomas J. Heldt, Physician in Chief, Division of Neuropsychiatry, Henry Ford Hospital; Dr. Lauren H. Smith, professor of psychiatry, University of Pennsylvania; and Dr. Harry C. Solomon, professor of psychiatry, Harvard University.

Recent gifts to the University for the support of research include the following: \$3,000 from the Smith, Kline and French Laboratories, Philadelphia, for research under the direction of Dr. Clarence S. Livingood, professor of dermatology and syphilology; \$6,600 from the W. K. Kellogg Foundation for participation in a curriculum planning program for nurses at the University of Chicago; \$1,300 from the American Heart Association for the support of research under the direction of C. E. Hall, Ph.D., of the department of physiology, and \$1,800 from the American Cancer Society for the support of research under the direction of Charles M. Pomerat, Ph.D., Director of the Tissue Culture Laboratory.

A series of special seminars on malaria was held February 13, 20 and 27. Donald W. Micks, Ph.D., associate professor of entomology, spoke on the "Development of the Malarial Parasite as Related to the Physiology of the Invertebrate Host." Dr. Edith Darrow discussed "The Relationship of the Life Cycle of the Malarial Parasite to Immunity and Drug Therapy" and Dr. R. H. Rigdom discussed "Consideration of the Pathological and Physiological Changes in the Host of Malaria."

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University of Utah School of Medicine

A \$413,000 cancer research building has been completed as a part of the new University-Medical Center. The school has made great strides since it entered on the 4 year program in 1942.

University of Virginia Department of Medicine

A new Department of Microbiology has been established. The new department will be responsible for instruction and research in infectious diseases and will cover the sciences of bacteriology, virology, mycology, immunology and immunochemistry. Dr. Alto E. Feller, associate professor of Preventive Medicine at Western Reserve University, has been appointed professor and chairman of the Department.

Dr. Edward R. Cawley, assistant professor of dermatology and syphilology at the University of Michigan, has been appointed professor and chairman of the department of dermatology and syphilology to succeed Dr. Dudley C. Smith, deceased. Dr. Clayton E. Wheeler, instructor at the University of Michigan, has been appointed assistant professor of dermatology and syphilology. He succeeds Dr. Robert Thompson who resigned. Dr. Richard J. Ackart, assistant director of the Johns Hopkins Hospital, has been appointed Director of the University of Virginia Hospital. Dr. Herbert W. Park, formerly a Baruch Fellow in Physical Medicine, has been appointed assistant professor of physical medicine. He will serve as medical director of the Woodrow Wilson Rehabilitation Center and director of physical medicine at the University of Virginia Hospital.

A Conference on the use of ACTH and cortisone was held January 19. More than 140 physicians from throughout Virginia attended as representatives of their local hospitals or county medical societies. The Conference was organized under the direction of Dr. William Parson, professor of internal medicine at the University. Dr. Charles A. Ragan, associate professor of medicine, College of Physicians and Surgeons, Columbia University, was the guest lecturer.

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Jefferson Medical College

With a grant of \$150,000 from the Samuel H. Kress Foundation, Jefferson and its hospital have established a new medical-dental clinic with a related cur-

riculum of oral medicine. The program will integrate dentistry into the teaching of medical students and will provide graduate medical education in dental problems and procedures. The clinic, expected to serve over 40,000 school children a year, will function to provide closer cooperation between physicians and dentists, dental interns, residents and dental hygienists.

Promotions: Dr. Anthony F. De Palma, James Edwards Professor of Orthopedic Surgery and Head of the Department to succeed Dr. James R. Martin who becomes emeritus professor; Dr. Henry B. Decker, professor and head of the department of dermatology to succeed Dr. Frank Crozer Knowles, Professor Emeritus, and Dr. Edward F. Corson, Professor Emeritus. William G. Dunnington, Colonel M. C., U. S. A., has been appointed Professor of Military Science and Tactics.

The Alumni Annual Giving Fund, begun in 1948, is continuing its unusual success in supporting the budget of the College. Fifty-six percent of the alumni in each of the first two years contributed \$108,313 and \$115,370, respectively. The third appeal has secured more than \$60,000 to date and is expected to exceed previous years. Funds are used exclusively for the support of salaries of full time teachers in preclinical departments.

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Washington University School of Medicine

A gift of \$50,000 from Miss Mary G. Reber for a non-medical library in the proposed Medical Student Dormitory Center. The gift is to be used to construct, furnish and maintain the Reber Library as a part of the planned Medical Student Center. A permanent endowment fund of \$15,000 may be set aside from the total \$50,000 for maintenance of the library and its furnishings. The "non-medical" library is one intended for relaxation, fellowship and informal meetings of the students, the faculty and their guests, where they may feel at home. The purpose of such a library will be to aid medical students in their intellectual de-

velopment, especially outside the field of medicine, so they will be able to read and discuss the thinking of the day. The library is not intended primarily for study. Miss Reber has requested that it be furnished as the living room of a home, with comfortable chairs, a fireplace and open bookshelves filled with books and current periodicals of cultural and general interest.

Should the University find it not feasible to construct the Student Dormitory Center, the entire \$50,000 gift is to be used to establish a permanent endowment known as the Reber Fund, with the income to be used in assisting worthy students to complete their medical education. If there should be no need for scholarship funds, the income may be used in other fields useful to medicine and of benefit to humanity.

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Indiana University Medical Center

Occupancy of a recently completed \$400,000 research wing adjoining the James Whitcomb Riley hospital for children, is proceeding as rapidly as laboratory equipment is received and installed. Constructed by the State, the building is being equipped from funds secured by the Riley Memorial Association in a state wide campaign to advance studies of the diseases of children.

The Indiana University School of Medicine, with the cooperation of the Indiana State Medical Association, has expanded its postgraduate program by using telephone lines to carry lectures and discussions to county medical society meetings. The series of Telephone Seminars has been increasingly popular with the January program heard by members of 20 county societies.

A grant of \$5,100 has been renewed by the U. S. Public Health Service to Dr. William A. Summers of the department of microbiology for continuation of his study of intracellular parasites causing a form of encephalitis.

Renewal of a grant to Dr. Edward W. Shrigley of the department of microbiology for continuation of his cancer

research involving virus metabolism and virus induced tumors, using radio-active phosphorus, has been announced by the Federal Security Agency.

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University of Illinois College of Medicine

Ten fellowships supported by the Graduate College of the University will be awarded to qualified scholars who contemplate academic careers in the medical and allied sciences. Stipends of from \$1,800 to \$2,400 are available for medical and dental graduates with a maximum of \$3,000 for unusually well qualified applicants. Exemption from tuition fees is provided for all appointees. Registration for work toward M.S. or Ph.D. degrees is required. Applicants need not have completed clinical internships. Minimum requirements are: Bachelor's and M.D. degree.

Evidence of scholarship and promise of research ability are primary considerations. The fellowships provide an opportunity for research experience in the basic sciences and the application of these sciences to clinical investigation.

Applications must be received by February 15th, with selections to be announced by April 1, 1951. Forms may be obtained from the Associate Dean of the Graduate College, University of Illinois, 803 S. Wood St., Chicago 12, Ill.

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Southwestern Medical School of the University of Texas

Grants Received: American Cancer Society, \$1,922.08; Southwestern Medical Foundation, \$9,174.44; U. S. Public Health Service (undergraduate training in cardiovascular diseases), \$14,000; U. S. Public Health Service (undergraduate training in psychiatry), \$12,500.

A recent action of the Board of Regents of the University permits Southwestern to establish a four trimester year for juniors and seniors, the summer trimester to be an elective session. Under this agreement it is possible to complete graduation requirements in three and one-fourth calendar years.

Medical College of Virginia

Dr. John B. Truslow, formerly Assistant Dean of Columbia University, College of Physicians and Surgeons, became Dean of the school of medicine January 1. Dean Truslow succeeds Dr. Harvey B. Haag, who resigned in order to give full time to teaching and research in the department of pharmacology of which he has been head for many years.

The Forty-Fifth General Hospital, sponsored by the college in World Wars I and II, has been reorganized and becomes an Organized Reserve Training Unit in the Virginia Military District. Colonel John Powell Williams, professor of clinical medicine, and Chief of the Medical Service at McGuire Veterans Hospital will be in command.

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University of Pennsylvania School of Medicine

A School of Auxiliary Medical Service has been organized. It will offer a one year course leading to a certificate in physical therapy. Only college graduates having required credits in physical and biological sciences, psychology and social science will be admitted. The school also accepts students for four year courses leading to the degree of Bachelor of Science in Physical Therapy and it will train students for careers in occupational therapy.

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State University of New York at New York City College of Medicine

Dr. Jean A. Curran has been appointed Dean of the State University College of Medicine in New York City. Dr. Duncan W. Clark who was Dean of Long Island College of Medicine at the time of merger has been appointed Professor of Environmental Medicine and Community Health and executive officer of this newly constituted department.

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University of Arkansas School of Medicine

Dr. Frank S. Forman, Jr., has been appointed professor of otolaryngology.

Yale University School of Medicine

Dr. John F. Fulton, Yale physiologist, has been named to fill the newly created position of Sterling Professor of the History of Medicine.

Dr. Fulton will relinquish his present duties as Sterling Professor of Physiology and Chairman of the Department of Physiology. He will, however, be at liberty to continue with certain phases of his physiological research. Donald H. Barron, professor of physiology, will serve as acting chairman of the department.

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University of Colorado Department of Medicine

Appointment: Dr. John Rusweiler Cann, assistant professor of biophysics.

A research grant of \$10,500 has been awarded to Dr. James J. Waring, professor of medicine for infantile paralysis study by the National Foundation for Infantile Paralysis.

Dr. David H. Watkins has been appointed associate professor of surgery and associate chief of the division of surgery at Denver General Hospital.

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University of Pennsylvania Graduate School of Medicine

Dr. Aimes C. McGuinness, director of the Children's Hospital of Philadelphia, has been appointed dean of this school to succeed Dr. William S. Parker, who resigned. Dr. McGuinness is also assistant professor of pediatrics in the undergraduate school of the University. Dr. Parker will continue on the surgical faculty.

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University of Kansas City School of Medicine

It is rumored that this University is seriously considering opening a medical school in the not too distant future. Plans are being discussed. Funds are said to be available. The Kansas City hospitals are expected to furnish clinical teaching facilities, and, it is claimed, have agreed to cooperate fully in the project.

New York University Bellevue Medical Center

Appointment: Dr. Clarence E. de la Chapelle as Director of the Division of Affiliated and Regional Hospitals, a newly created division. Dr. La Chapelle will coordinate the teaching program carried forward at 20 hospitals now affiliated with the Medical Center for the training of undergraduate medical students as well as physicians taking graduate and postgraduate studies.

Eight of the affiliated hospitals are in New York City and include both municipal and voluntary hospitals. Twelve of the affiliated hospitals are located in suburban or rural areas within 100 miles of New York and are members of its Regional Hospital Plan.

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West Virginia University School of Medicine

The State Legislature has voted to expand the present two year school to a full four year school to be located in Morgantown. Funds have been appropriated for a new medical building and a teaching hospital. From \$750,000 to \$1,000,000 will be needed to carry out this program.

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Yeshiva University

Yeshiva University of New York City will open a medical, dental and pharmacy school in 1952. Money needed for that purpose is on hand. It is anticipated that the venture will cost about 25 million dollars since it is planned to build a teaching hospital of sufficient size to meet the needs.

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Emory University School of Medicine

A new program linking Emory with regional hospitals will get under way July 1 when expanded services are offered by City hospital, Columbus, through a tie-up with Emory. The program is made possible by a \$150,000 grant from the Kellogg Foundation.

Marquette University School of Medicine

A gift of \$10,000 given to Marquette by Kurtis R. Froedtert, chairman of the board and president of the Froedtert Grain and Malting Company, Milwaukee, will be allocated to the School's pediatrics department. The grant will be used to assist with the teaching of children's diseases to Marquette medical students affiliating at Milwaukee Childrens Hospital. Mr. Froedtert also awarded \$10,000 to the Damon Runyon Cancer Fund.

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University of Minnesota Medical School

A continuation course in urology will be given April 2 to 6. Dr. C. D. Creevy, professor of surgery, is chairman of the course. Many distinguished visitors will participate.

A continuation course in diseases of the blood in infancy and childhood will be held April 16-18 under the direction of Drs. Irving McQuarrie and Charles D. May of the department of pediatrics.

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Northwestern University Medical School

A grant of \$4,500 has been received from the Rockefeller Foundation for the study of the creation of energy in the human body. Dr. Irving M. Klotz, professor of chemistry and biology, will direct the research.

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George Washington University School of Medicine

On February 10, the School began a course of 10 lectures on medical education for atomic defense. The last lecture will be delivered April 14. Authorities in their respective fields of activity will speak.

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Boston University School of Medicine

Dr. Jacob W. Strutzman, associate professor of pharmacology has resigned. He will continue to serve as special lecturer.

General News

National Foundation for Infantile Paralysis

Universities and research centers in sixteen states and Canada have been granted one and a half million dollars in March of Dimes funds for infantile paralysis research and professional education. The newly approved research projects include continuing attempts to develop an effective vaccine for polio, search for a chemical agent that will prevent the virus from damaging nerve cells, development of a rapid diagnostic polio test, and the preparation of a polio antiserum that will increase an individual's resistance to paralysis.

The Board of Trustees of the Foundation, on recommendation of its Medical Advisory Committees, recently approved \$1,509,990 for the continuation of research and professional education program seeking the prevention of polio, improved methods of treatment of the disease, and the training of more skilled professional persons to speed research and to provide better care for patients. The programs become effective January 1, 1951.

The new grants and appropriations bring the total over 25 million dollars in March of Dimes funds spent for research and education by the National Foundation since 1938. In addition, the Foundation, it was revealed, has spent 102 million dollars on patient care in the same period. All monies are derived from the voluntary contributions of the American people to the annual March of Dimes. The announcement revealed that part of the funds authorized for research projects would go to the universities as payment for the "hidden costs" of conducting research. Such items include heat, light and power, building maintenance and the other charges which ordinarily are not included in a research budget but which nevertheless are related

to the research and drain funds from the universities. In addition, funds had been authorized for the preliminary investigation of emergency research projects which could not await the regular consideration of advisory committees and the Board of Trustees. Similarly, funds were set aside for scholarships and fellowships which are administered directly by the National Foundation.

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National Society for Medical Research

The society will pay \$5 for each photograph of animals used for research which it accepts for its new book "Animals Make Medical Magic." Pictures of all types of experimental animals in laboratory surroundings are being sought. Address: 185 North Wabash Avenue, Chicago 1, Illinois.

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Research on Dementia Precox

The Supreme Council, Thirty-third degree, of the Ancient Accepted Scottish Rite of Freemasonry for the Northern Jurisdiction comprising the states north of the Ohio river and east of the Mississippi, has appropriated \$1,000,000 to endow a benevolent foundation for the study of dementia precox.

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U. S. Public Health Services Laboratory Training Courses

Beginning January 1, 1951, the Service is offering laboratory training courses of one and two weeks duration each in the diagnosis of bacterial and parasitic diseases. Information can be obtained by applying to the Officer in Charge, Laboratory Training Services, Communicable Disease Center, U. S. Public Health Service, P. O. Box 185, Chamblee, Georgia.

Reports on Educational Conferences

Undergraduate Teaching and Postgraduate Training in Psychiatry

A round table discussion of undergraduate and postgraduate training in psychiatry was held at the annual meeting of the Association of Canadian Medical Colleges in September, 1950.

The following were discussants: Dr. R. O. Jones, Dr. C. G. Stogdill, Dr. A. B. Stokes, Dr. Geo. H. Stevenson, Dr. Geo. E. Hobbs and Dr. D. E. Cameron, Chairman. The views put forward were as follows:

Since the American Medical Association report in 1939 on medical education in the United States and Canada, there has been a rapid increase in the amount of time devoted in Canadian universities to the teaching of psychiatry at both the undergraduate and postgraduate levels, and a similar increase in the range of material taught. All the medical schools which were represented reported that psychiatry was taught throughout the undergraduate curriculum, and all reported that an examination was held in the final years. The amount of time allocated ranged from about 150 to 250 hours, depending on the school.

Active organization of postgraduate teaching was in progress, with students being prepared for the Certification and Fellowship Examinations of the Royal College of Physicians and Surgeons of Canada, as well as for the examinations of the American Board of Psychiatry and Neurology.

This expansion of psychiatric teaching was seen as a concomitant of considerable changes in our basic premises concerning illness. While at the turn of the century much of illness was thought of as an attack—e.g., bacteriological, as due to a single specific cause, and as being categorized into mental and physical diseases—our basic premises now are that much, though by no means all, of illness is a reaction. The etiology of illness is seen as multifactorial, and the individual, rather than his body or his mind, is seen as a sick entity.

In consequence of this, there has been a greatly enlarged appreciation of the extent to which illness is due to environmental stress and, particularly, to those stresses which arise from interpersonal relations. With this, there has come a shift in the general philosophy of psychiatric teaching. Many psychiatrists no longer see their field as a specialty but as a basic science which ranks with physiology and anatomy as fundamental requirements for medical students. They must study the facts of the structure of the body, the facts of the functioning of the individual organs and the facts of the functioning of the personality, the latter being the area which is psychiatry. The rationale for this teaching philosophy is as follows:

- (a) much illness depends on disordered personality functioning and the student must be able to evaluate and treat this side of sickness;
- (b) every illness poses personal problems even though they may not be of etiologic importance;
- (c) treatment of all illness is based on the patient-physician relationship, a special type of interpersonal relationship which has been particularly studied by psychiatry;
- (d) this type of interpersonal relationship demands that the doctor pay attention to his own personality.

This philosophy demands that psychiatric teaching be started early. That

means that in first year, as well as teaching the facts of normal personality, the facts of neurophysiology and psychophysical relationships, some emphasis should be placed on directing the student's attention toward himself and his own personality problems.

In the first undergraduate year, the teaching of psychobiology is customary. In this is given basic instruction in human behavior, with special attention to those aspects which are particularly necessary for the later understanding of deviant behavior. Hence, emphasis is laid upon presenting an outline of personality development, of child-parent relations, of the management of anxiety, guilt and hostility, and of basic psychosomatic concepts. In certain schools, attempts are made to correlate this instruction with that given in physiology, anatomy and biochemistry so that the student is able to acquire a concept of the human organism as an acting and integrated whole.

Attempts are being made in psychiatric teaching, as in the teaching of other departments, to introduce the student to clinical instruction as early as possible, and several schools achieved this in the second year. Similar attempts have been made to introduce seminar and small group instruction at this earlier period.

The instruction given in the second year varies, some centres concentrating on psychopathology and others on clinical lectures dealing with the formal reaction types. Considerable importance is attached, during both years, to the presentation not of extreme cases but of personality problems and everyday forms of maladjustment. This is a trend which first appeared in psychiatric teaching almost two decades ago, and now has come to influence all psychiatric teaching. At an earlier period, when psychiatric teachers were recruited primarily from the large, closed mental institution, the student usually was presented with the advanced schizophrenic patient or extreme manic depressive. Now, with a knowledge of the amount of mental ill health encountered in everyday life and with an appreciation of the fact that the medical practitioner may encounter only one or two schizophrenic patients and even fewer general paretics during a year's practice but will have to deal every day with psychoneurotic individuals, with patients suffering from psychosomatic illnesses, as well as with a great range of personality clashes in emotional situations, there has been a sweeping change not only in the type of teaching material but also in the location of teaching.

It may be said that by far the greater part of psychiatric teaching now is carried on in the psychiatric departments of the general hospitals, on the wards of the general hospitals, in the outpatient departments of general hospitals, as well as in mental health clinics.

The type of case on which teaching is carried out is the psychoneurotic patient, the patient who is suffering from psychosomatic illness, the patient who is showing serious emotional reactions to such illnesses as decompensated heart disease or tuberculosis, or those individuals who have encountered major domestic or work difficulties, as well as those who have come with problems in personality development. Instruction in the psychoses is also given, and mental institutions are used for this purpose, but this teaching is given a place commensurate with the anticipated needs of the future general practitioner, as outlined above.

In the third year, a clinical clerkship is carried out. In some schools this is deferred to the fourth year. This clerkship usually is held in the general hospital department of psychiatry. It calls for the working up of cases, their presentation at ward rounds, and, in some places, for the carrying on of treatment, including psychotherapy, under guidance.

During the fourth year, there is a considerable amount of teaching on the wards of the general hospitals and in the outpatient departments. The teaching

commonly includes such matters as the emotional problems of patients suffering from colitis, asthma and hypertension. It deals with family and child-parent problems. During this period the student is introduced to the matter of working with the social worker, the clinical psychologist, the occupational therapist and other ancillary personnel. He gains some acquaintance with the concepts of rehabilitation, and he learns of the necessity of dealing not only with the patient but with his family and with his work group.

In psychiatric training at the postgraduate level, the same forces which have so extensively altered the whole march and scope of undergraduate teaching are in equally active operation.

Courses of postgraduate training are being set up under the direction of the universities and in these a rapidly increasing number of young men have enrolled. The part played by the university is considered of special significance and is a distinguishing characteristic of the development of postgraduate psychiatric education in Canada.

The Royal College of Physicians and Surgeons of Canada has adopted a policy of giving recognition to a psychiatric training centre only if it is part of an approved university training program.

It is generally recognized, moreover, that no single centre can give the comprehensive training and experience which is required for the preparation of the present day psychiatrist. He needs to have acquaintance with acute and chronic psychoneurotic problems, with the earliest stages in the psychoses and with a great range of other personality problems which are to be found in the psychiatric departments of general hospitals and in their outpatient departments. He must be acquainted, also, with the more severely disturbed patients and with the continued care of such individuals as it is carried out in the mental institutions. He must study the psychosomatic disorders on the wards of the general hospital, and he must have an acquaintance with child psychiatry, with social and community psychiatry as it is carried on in the mental hygiene clinics; he may want some experience in neurology, in biochemistry and in endocrinology, or special experience in psychology.

Together with this must go basic and theoretic seminar instruction in a wide range of related fields—anthropology, sociology, genetics, as well as psychology, in neuro-anatomy, endocrinology and biochemistry. Similar seminar instruction must be given in psychodynamics and psychotherapy, in psychoanalysis and psychosomatics; and his practical instruction in psychotherapy may be carried out through a tutorial system.

In the great expansion of postgraduate training in psychiatry, the Dominion-Provincial health grants have played an important part. They have provided funds not only for the strengthening of the teaching corps and the organizing of new teaching centres, but they have also provided a scholarship system which enables young men to take training at any of the accepted centres in Canada and also to go abroad for further experience.

In summary, it may be said that the development of undergraduate and postgraduate psychiatric teaching in the Canadian universities is proceeding upon a broad front. The facts concerning human behavior are seen as a basic in themselves, but with the data of the other medical sciences and of the social sciences extending the significance of these facts. Major tasks of psychiatry are considered to be the integration of its concepts into the procedures of other medical disciplines and the synthesis of the facts and the concepts of the medical and social sciences.

Conference on Psychiatric Education

A Conference on Psychiatric Education will open on June 21, 1951, at Cornell University, Ithaca, New York. The Conference will be under the auspices of the American Psychiatric Association in conjunction with the Association of American Medical Colleges. It will continue from seven to ten days. The general direction and program planning for the Conference has been placed in the hands of a Planning Committee of 27 members.¹ This Committee held its first meeting at Lake Placid, New York, on October 21 and 22, 1950. The Committee decided that the Conference should devote itself to psychiatry in undergraduate medical education, leaving the problems of graduate and postgraduate training in psychiatry to later consideration.

The Planning Committee decided further that the Conference should orient its study of medical education by a basic consideration of community needs, what they are, how medical education is meeting them, how psychiatry contributes to this end, and what further steps may be taken to meet the needs. Five major study areas were outlined by the Committee:

1. COMMUNITY NEEDS—RURAL AND URBAN:

What does the community need and expect of the doctor in dealing with persons as well as diseases, with groups, as well as individuals, and in the management of human relations? Changes in society and social structure create new needs in the community, both rural and urban. In turn these needs call for changes in the teaching of medicine. In addition to what we can answer ourselves or learn from general practitioners and morbidity statistics, we can explore the opinions of a wide variety of persons, for example, clergymen, school teachers, social workers, lawyers, penologists, personnel managers and parents. Also public health officers and medical or welfare agencies can supply facts and indices of community health.

Recognizing that there are large gaps in our psychiatric knowledge and understanding, which limit our capacity to meet the community needs and expectations, the formulation of these needs may nevertheless, serve as a challenge and a useful frame of reference for the teaching of psychiatry in medical school.

2. THE STUDENT—HIS ADAPTATION AND PROGRESSION:

The medical student brings to the study of medicine a body of knowledge, folklore, sentiments and values concerning man's behavior that has been derived from his family and peers, from the church and from school as well as from formal instruction in the social and biological sciences. Such attitudes and information variously predispose the prospective physicians in their developing relations with patients and in the evaluation of further knowledge of the dynamics of behavior. A major contribution of psychiatric education is a better understanding of the student's attitudes, the growth of personal maturity and the management of his own feelings and attitudes.

The commission should review such topics as: The assets, liabilities and motivations the student brings with him; the influence of the student's economic circumstances; the changing pressure of our society; the effect of the learning situation, especially instruction by example in the clinical areas; the maturing effect of responsibility for patient care; the effect of teachers' attitudes; and the consequences of such administrative influences as the premedical requirements and medical college admission policy upon the type of student ultimately admitted to the study of medicine.

3. THE SETTING—THE MEDICAL SCHOOL AS IT EXISTS TODAY: BIASES, DEFICIENCIES, POTENTIALITIES:

A summary of the medical school milieu which arose to meet demands of the past in accord with past medical concepts; and how changing needs, knowledge and pedagogical skills, with particular reference to changes in psychiatry, now require alterations in the medical school environment. This area includes: changes in medicine generally, changes in psychiatric perspective, impact of social sciences and conceptions of human development; also examples of good and poor settings and recent experiments to alter them.

4. GENERAL PRINCIPLES, CONTENT, AND METHODS OF TEACHING PSYCHIATRY IN THE UNDERGRADUATE MEDICAL PERIOD:

Inquiry into the nature of the body of knowledge (growth and development of human beings in our society; concepts of health and disease; physician-patient relationships; patterns of adjustment and maladjustment) which may be incorporated as content, in addition to the necessary knowledge about psychiatric illnesses.

Further inquiry into which types of learning experiences the undergraduate medical student may participate in with teacher and patient, and at what stages these should take place in order that the student may obtain a more comprehensive understanding of his functions as a physician in our society.

5. ADMINISTRATIVE AND INTEGRATIVE PATTERNS OF ORGANIZATION:

Inquiry into current and planned medical school curricular patterns; ways in which psychiatry can be integrated intimately with other departments in school, hospital, university and community, structure of psychiatric departments (whole and part-time status, budget, proximity to other clinical departments, nature and use of teaching and clinical facilities).

Preparatory Commissions are assigned to each of the five study areas.² The Preparatory Commissions are responsible for breaking the study area outlines into the specific topics and subtopics that will constitute the detailed agenda of the Conference itself; and for bringing to each of these topics and subtopics such up-to-date information, data and opinion as are basic to a consideration of them. Each Commission is encouraged and assisted to seek the advice of authorities in its study area. By bringing to the Conference a well selected, digested, and organized body of material for consideration, the Preparatory Commissions will enable the delegates to avoid dilatory extensions of time and effort into questionable, irrelevant, or minor detail.

Tentative plans for the operation of the Conference itself are taking shape.

It is planned that approximately 70 delegates will be broken into six working groups of about 12 each for every working day of the Conference. All working groups will consider the same topic at the same time. The composition of the groups and the chairman will be changed from day to day, so that over the course of from 7 to 10 days broadly representative points of view will be brought to bear on the topics. To tie in the work of the Preparatory Commissions with Conference deliberations, a representative of a Commission will sit in as "consultant" with each working group when a topic in that Commission's field is under consideration.

At the end of each Conference day, the chairman of the working groups will meet to prepare summary reports and recommendations of the day's proceedings. An adequate secretarial staff will be on hand to reproduce these for presentation to a plenary session of the Conference the following day or as shortly thereafter as possible.

The plan calls for an actual working conference of a representative number of persons, with active participation by all. To be effective, this plan requires a severe limitation on the number of participants. It is expected that a considerable measure of agreement may be found, but not complete agreement, and that the extent and practical significance of agreement and divergence will be pointed up in a fashion which will give to all of us concerned a better perspective and a more confident sense of direction, for the improvement of medical education.

Such expectations will be fulfilled, however, only if all concerned assume an individual responsibility for the success of the Conference. Regardless of specialty, it is important to learn what is needed and expected from the undergraduate medical schools.

If you have any comments, questions, or suggestions, please send them to the Executive Office of the Conference, 1624 Eye Street N.W., Washington 6, D.C., where they will be passed on to the appropriate commissions for consideration.

JOHN C. WHITEHORN, M.D., Chairman,

Conference on Psychiatric Education

JOHN MCK. MITCHELL, M.D., Co-Chairman

¹The members of the Planning Commission are as follows (the asterisk indicates Executive Committee members): Drs. Raymond B. Allen, University of Washington; Donald Anderson, American Medical Association, Chicago; Arthur C. Bachmeyer, University of Chicago; Leo Bartheimer, Wayne University; George P. Berry, Harvard University; Karl Bowman, University of California; Ward Darley, University of Colorado; F. G. Ebaugh, University of Colorado; F. J. Gerry, University of Illinois; Alan Gregg, Director, Medical Sciences, Rockefeller Foundation; Carlyle Jacobsen, State University of New York; Maurice Levine, University of Cincinnati; Theodore Lidz*, Johns Hopkins University; Vernon W. Lippard*, University of Virginia; H. E. Meleney, New York University; H. H. Merritt, Columbia University; John McK. Mitchell*, University of Penna.; H. C. Poncher, University of Illinois; Clifton Perkins, Maryland Commissioner of Mental Hygiene; George N. Raines, Office of the Surgeon General, U. S. Navy; John Romano, University of Rochester; Benjamin Spock, Rochester Child Health Institute; Harvey Tompkins, Veterans Administration, Washington, D.C.; Seymour Vestermark, U.S.P.H.S., Division of Mental Hygiene; John C. Whitehorn*, Johns Hopkins Hospital; S. Bernard Wortis*, New York University; John B. Youmans, Vanderbilt University. Dr. Daniel Blain is the Executive Director of the Conference.

²The Chairmen of the Preparatory Commissions are: Dr. Kenneth Appel, University of Pennsylvania (Community Needs); Dr. Carlyle Jacobsen, State University of New York, (The Student); Dr. John Romano, University of Rochester, (The Setting); Dr. Maurice Levine, University of Cincinnati, (General Principles); Dr. Ward Darley, University of Colorado, (Administrative and Integrative Organization).

Book News

(Because of restrictions placed on the use of paper by the Government, it is imperative that the space devoted to Book News be curtailed. The receipt of books will be noted but reviews will be limited to new books and books used as texts in medical schools.)

Methods in Medicine

By George R. Herrmann, M.D., Professor of Medicine, University of Texas Medical Branch. Ed. 2. The C. V. Mosley Company, St. Louis. 1950. Price, \$7.50.

Twenty-five years ago the first edition of this book was published at the close of Dr. George Dock's medical service. This edition is a "Festschrift" in honor of the 90th birthday of Dr. Dock, sixty years after the opening of his first laboratory at the University of Texas. The manual is planned to be a practical ward or bedside guide for the clinical investigation of diseases. Each method described has been proven to be satisfactory. Methods are condensed and arranged logically. Part I. Methods and routine case study. Part II. Clinical laboratory procedures and tests. Part III. Methods of clinical investigation. Part IV. Therapeutic methods. Part V. Dietetic methods.

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The Social and Biological Challenge of Our Aging Population

Proceedings of the Eastern States Health Education Conference, March 31-April 1, 1949. Columbia University Press, New York. 1950. Price, \$2.75.

Contributed by authorities from all relevant fields—public health, care of the chronically ill, population control and analysis, clinical medicine, biology, nutrition and genetics—to consider the problems posed by the "large and growing group of the population who have outlived their usefulness to Society."

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Toxemias of Pregnancy: Human and Veterinary

A Ciba Foundation Symposium. The Blakiston Company, Philadelphia. 1950. Price, \$4.50.

Proceedings of the symposium held in London under the auspices of the Ciba Foundation for the promotion of international cooperation in medical and scientific research. Thirty-nine specialists present the results of their investigations.

Methods in Medical Research

By Ralph W. Gerard, Professor of Physiology, University of Chicago, Editor-in-Chief. The Year Book Publishers, Inc., Chicago. 1950. Price, \$7.

Presenting detailed operative information for the experimenter in each of several fields by men of experience and authority. Four associate editors are responsible for the four sections into which the text is divided. Section 1. Genetics of Microorganisms. Section 2. Assay of Neurohumors. Section 3. Selected Psychomotor Measurement Measures. Section 4. Methods for Study of Peptide Structure. The initiated and those who wish to be initiated will find this book a valuable help in their work.

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Physiology of the Eye: Clinical Application

By Francis H. Adler, M.D., William F. Norris and George E. de Schweinitz, Professor of Ophthalmology, School of Medicine, University of Pennsylvania. The C. V. Mosley Company, St. Louis. 1950. Price, \$12.

More and more clinicians are realizing the need and value of a thorough knowledge of physiology as applied to their daily work. The "why" and "how" of things is being stressed in this book which discusses how the various portions of the eye function normally. Such knowledge makes for better treatment.

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Anatomy of the Gorilla

Edited by William K. Gregory. Columbia University Press, New York. 1950. Price, \$15.

The studies of Henry Cushman Raven. A collaborative work of the American Museum of Natural History and Columbia University.

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Pharmacology and Therapeutics

By Arthur Grollman, M.D., Professor of Pharmacology and Medicine, Southwestern Medical School of the University of Texas. Lea & Febiger, Philadelphia. 1950. Price, \$10.

Diseases of the Tropics

By George Cheever Shattuck, M.D., Professor of Tropical Medicine, Harvard Medical School and Harvard School of Public Health, Emeritus. Appleton-Century Crofts, Inc., New York. 1950. Price, \$10.

The author covers this vast field on the basis of a long experience with these diseases from actual observation in their native habitat. It is a large book of nearly 800 pages, well illustrated and presenting an extensive bibliography. Coverage is complete. It is in essence, an autobiography of that not inconsiderable part of the author's life spent in daily contact with these diseases.

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Differential Diagnosis of Internal Diseases

By Julius Bauer, M.D., Clinical Professor of Medicine, College of Medical Evangelists; formerly Professor of Medicine, University of Vienna. Grune & Stratton, New York. 1949. Price, \$12.00.

A clinical analysis and synthesis of symptoms and signs. The first twelve chapters are devoted to a discussion of leading symptoms; the final eight chapters to leading signs. Bibliographic references are appended to each chapter. The author's long experience as a physician and teacher is reflected in this work. He covers the field commendably.

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James Luid: Founder of Nautical Medicine

By Louis H. Rodis, Captain Medical Books, U. S. Navy. Henry Schuman, Inc., New York 21, New York. 1950. Price, \$3.

The story of a Scottish Naval Surgeon who discovered the cure for scurvy; the father of naval hygiene and modern naval medicine.

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Guide to Medicine

By Iva Geikie-Coleb, M.D., with special articles by various contributors. Derell, Sloan and Pearce, New York. 1950. Price, \$5.

An encyclopedic dictionary.

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A Companion to Manuals of Practical Anatomy

By E. B. Jamieson, M.D., former Lecturer on Anatomy, University of Edinburgh. Ed. 7. Oxford University Press, London. 1950. Price, \$3.50.

Rest and Pain

John Hilton, F.R.S., edited by E. W. Wallis, M.D., Professor of Anatomy, University of London, and Elliott E. Phillip, M.B., Honorary Demonstrator in Anatomy, Middlesex Hospital Medical School, in collaboration with H. J. B. Atkins, M.Ch., Director of Department of Surgery, Guy's Hospital. J. B. Lippincott Company, Philadelphia. 1951. Price, \$10.

A series of lectures delivered by John Hilton in 1860, 1861 and 1862, dealing with the Influence of Mechanical and Physiological Rest in the treatment of accidents and surgical diseases and the diagnostic value of pain.

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Encyclopedia of the Eye

By Conrad Berens, M.D., Professor of Clinical Ophthalmology, New York University Post-Graduate Medical School, and Edward Siegel, M.D., attending Ophthalmologist, Champlain Valley Hospital. J. B. Lippincott Company, Philadelphia. 1950.

A ready reference to the diagnosis and treatment of the more common ophthalmological problems; in alphabetical order; well illustrated.

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Human Biology

By George Alfred Baitzell, Colgate Professor of Biology, Yale University. Ed. 2. McGraw-Hill Book Company, New York. 1950. Price, \$6.

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Laboratory Manual for Pharmacognosy

By Edward P. Claus, Ph.D., Professor of Pharmacognosy, University of Pittsburgh School of Pharmacy. Ed. 2. The C. V. Mosby Company, St. Louis. 1950. Price, \$3.25.

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Pharmacology

By Michael G. Mulmos, M.D., Associate Professor of Physiology and Pharmacology, New York Medical College. Oxford University Press, New York. 1951.

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Physical Diagnosis

By Ralph H. Major, M.D., Professor of Medicine, University of Kansas. Ed. 4. W. B. Saunders Company, Philadelphia. 1951. Price, \$000.

Paul Ehrlich

By Martha Marquardt. Henry Schuman, New York. 1950. Price, \$3.50.

A biography written by Ehrlich's one time secretary. She gives many interesting incidents in the life of this most talented and productive worker.

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An Outline of Scientific Criminology

By Nigel Morland. Philosophical Library, Inc., New York. 1950.

Presenting most of the essential elements involved in this subject.

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The Hebrew Impact on Western Civilization

Edited by Dagobert D. Runes. Philosophical Library, New York. 1950. Price, \$10.

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Comparative Animal Physiology

C. Ladd Prosser, Editor, Professor Physiology University of Illinois. W. B. Saunders Company, Philadelphia, 1950. Price \$2.50.

The Collected Papers of Adolf Meyer (Vol. I)

General Editor, Eunice E. Winters, with an introduction by Louis Hausman, M.D. Professor of Clinical Medicine (Neurology) Cornell University Medical College. The Johns Hopkins Press, Baltimore. 1950. Price (4 Vols.) \$30.

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Quakers in Science and Industry

By Arthur Raistrick, Ph.D. Philosophical Library. 1950. Price, \$6.

Being an account of the Quaker contributions to science and industry during the 17th and 18th centuries.

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Natural Childbirth

By Frederick W. Goodrich, Jr. Prentice-Hall, Inc., New York. 1950. Price, \$2.95.

A manual for expectant parents.

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Fundamentals of Clinical Fluoroscopy

By Chas B. Storch, M.D., Beth Israel Hospital, New York. 1951. Price, \$6.75.

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